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PRESIDENT'S ADDRESS.*

By A. R. Kieffer, M. D., of St. Louis.

The object of medical organization, tersely and comprehensively stated, is to advance the science and art of medicine; to improve the practitioner of every department of medicine and increase his efficiency in relieving human affliction. Our purpose is lofty and our ideals limited only by the fancy of each individual laborer in the vineyard of medicine.

Our profession had its origin in superstition and empiricism. For long ages after the acknowledged Father of Medicine concluded his labors, little progress was made. It seems incredible that scientists could calculate the distance, size and movements of planets, and anticipate with mathematical accuracy the occurrence of an eclipse, long before one of the commonest facts of physiology, the circulation of the blood, was understood.

The general advance in scientific knowledge, and an awakening to the fact that the human body, though divine, was, after all, a kind of a machine which could be understood only by a study of its parts and their relations, anatomically and physiologically; with the further fact that many, if not all, of the physiologic processes occurring in the body were the result of chemical affinities, in many instances capable of demonstration without the living body, and that all known biologic laws applied to our bodies, as well as to those of the lower orders, gave a tremendous impetus to the investigation of everything pertaining to the human body and related collateral sciences. In no other department of human endeavor has there been so much effort expended in searching for the hidden truths of science. Master minds in every civilized country on the globe have gratuitously contributed their best efforts in this grand cause, spurning financial inducement in other fields of labor; in one recent well-known instance even rounding out a fruitful career of ar-

*President's Address at the Annual Meeting of the Missouri State Medical Association, Jefferson City, May 18, 19, 20, 1909.

duous labor by actually sacrificing his life in the cause of preventive medicine. In the few years since this memorable event occurred, an actual demonstration of the sanitary possibilities in hitherto almost uninhabitable localities, has elicited the plaudits of civilization everywhere. To-day Havana and Panama are as free from yellow fever as northern seaports.

A few other noted examples of the fruits of the labor of original workers, in addition to the one just mentioned, which have done so much to improve the science and art of medicine, given without attempt at chronological arrangement, are the ligature, obstetric forceps, vaccination, quinine, anesthetics, asepsis and antisepsis, serum therapy, salt solution and the *x*-ray.

There are no signs of a waning interest in original investigation. On the contrary, more work is being done now than at any previous time. The Carnegie Institute should be the pride of every American. Never before was there so much inducement to work. Many intricate problems, of vast importance because of their relation to the science and art of medicine, are demanding a solution. The brilliant accomplishments of the recent past have stimulated confidence in the unlimited possibilities of the future. The discovery in very recent times of the telephone, Roentgen ray, antidiphtheritic serum, wireless telegraphy, and the part played by the mosquito in the transmission of disease, certainly warrants glorious anticipations for what the near future has in store for us.

Some of these discoveries have been made single-handed, as it were, and worked out to their present-day degree of efficiency before being promulgated to the profession and laity. A notable example of this is the work of Jenner in cow-pox and vaccinia. Others were a gradual evolution to which many contributed before valuable practical results were obtained.

Coöperation and organization are playing a larger part in the field of original investigation than formerly and are absolutely indispensable to a practical application of science in sanitation and preventive medicine. Formerly one who thoroughly qualified himself to practice his profession, and then unselfishly contributed to the relief of the afflictions of those who sought his help, in an individual way to the best of his ability, was entitled to the contentment due to duty done. Medicine had little scientific basis. There were few propositions about which there was common agreement. Coöperation in the practical application of scientific theories to the problems of sanitation and preventive medicine, was fruitless. Such is not now the case. Admitting that but part of the field has been ploughed, we now have sufficient definite scientific knowledge not merely to warrant but demand the heartiest coöperation. He who confines his efforts to his individual work, and refuses to give a part of his time gratuitously to the general demands of his profession, no longer merits the plaudits of his co-workers. We still have many able men

in our ranks in Missouri who are unwilling to see anything better in medical organization and coöperation than a mere play for position and personal advantage. The number, however, is growing smaller, while the ranks of those becoming enthusiastic are being constantly recruited. When every member of our glorious profession in the State appreciates his opportunity for doing good and the responsibilities of inaction in the fullest measure, then indeed will the millenium in medical affairs have arrived.

Thus far, since the so-called reorganization of the American Medical Association went into effect, much has been accomplished in increasing our membership. There has also been a great advance in the character and amount of scientific work done. Too much of this is in evidence only at our annual meetings. The large component societies have a great advantage in numbers. All such societies in the State are doing good work. With the small societies in rural districts, handicapped by distance and an even more exacting clientele than the city doctor, the problem of ideal work is a much more difficult matter. Yet every component society in the State ought to have a scientific program at least once a month. As much of this work as possible should be done by local talent. As much outside aid should be sought as is necessary to keep up a due amount of zeal. Social features on a limited scale will do much to strengthen the bond of fraternal fellowship in the society. It is my observation that our organization has already done much in softening the asperities and improving the comradeship among members in component societies. Let us hope that it will soon be entirely effaced. Such a happy consummation would mutually benefit the practitioner and the people among whom he practices.

District societies should be formed in every part of the State, due regard being given to a location accessible to the largest number of members. They should be large enough to insure a fair attendance. Meetings should be held at least three or four times a year. Many could go far enough away from home to attend these meetings who could not attend a state or national meeting.

The post-graduate idea should control, at least partly, the programs of component and district society meetings. When arranged without system the results would correspond to those obtained by conducting a mercantile or other business in a haphazard manner. In all societies having several meetings annually the papers and discussions could easily be so arranged as to constitute a review of the subject of medicine at stated periods. A portion of every program could be reserved for pathological specimens, clinics and important special subjects. To hold a position in the United States Army or Navy a medical officer must stand an examination every four years. Such a requirement by a state before permitting a doctor to continue in practice would be regarded as extremely harsh, and yet the principle is as sound as when applied to the United

States service. Our own impulses should stimulate us to strive to grow in the science and art of our profession.

Closely related to the desirability of growth and improvement in those practicing our profession is the proper education of candidates for the degree of doctor of medicine. It is the general public who should be most vitally concerned about this question. The quality of the service rendered to them by the physicians they employ will depend a great deal upon the standard of medical education required. And yet, strange to say, the public at large has manifested little interest in the subject of medical education. All advances have been prompted and secured by the physicians themselves, usually in spite of opposition by those who should have been most interested. Our zeal for advancement is accredited to selfish motives. We have never received due credit for earnestness.

By the medical profession and a very few of the more advanced element of the laity, medical education has received a great deal of attention during the past few years. Prior to this period it was badly neglected. Formerly two short courses of didactic lectures, the latter a repetition of the former, were considered quite enough opportunity to qualify a student to practice his profession. A mythical year's experience with a preceptor and certificate of good moral character, constituted the entrance requirement. Time was granted to make up deficiencies in both respects. The dissecting room was the only pretense of a laboratory. It must be admitted that the profession generally appreciated the importance of dissecting, and knowledge of anatomy quite as keenly then as now. All other subjects were taught didactically, with the exception of an occasional clinic. Chemistry, histology and pathology were illustrated at long range. Microscopes were curiosities, or not in evidence at all. Some one has facetiously remarked that the best thing about this plan of teaching was the good opportunity the long interim between courses afforded for studying at home.

The discovery of the causative relation of bacteria to disease, together with a better appreciation of the necessity of practical information in chemistry, histology, pathology, physiology and materia medica, led to the addition of these laboratories to the course of study. An opportunity for a practical application of laboratory knowledge to the study of diseases required greater and more intimate clinical facilities. These additions and improvements, demanding a higher entrance requirement and four eight-month courses, have been made in the last twenty years.

The entrance requirement should be correlated to the educational opportunities throughout the country and the demands of the course of medical study. Uniformity is a great desideratum. There is a general agreement that a high school diploma or its actual equivalent is not too high. On account of educational backwardness some states do not yet require so high a standard although in agreement as to its desirability. As soon as possible they will require it. The council on medical education recommends one or two years in a school of liberal arts in addition

to the high school diploma. The number of medical colleges requiring such increased standard independent of legal requirement, is constantly increasing. A few even require a university diploma. Minnesota and North Dakota require two years in a school of liberal arts, and South Dakota, Kansas, Colorado and Connecticut, one. The students desiring examination must furnish evidence of such attendance before being admitted. Minnesota does not demand that medical colleges require such a standard, however, merely making it an individual matter with the graduate when he presents himself for license. This position for a medical examining board is liberal, tends to raise the standard and does not demoralize medical colleges not yet ready to adopt such an entrance requirement.

One of the objections to an extremely high entrance requirement is the age at which a graduate must arrive before being licensed to practice. If dependent upon his own resources it is nearly prohibitive. There is such a thing as settling down to one's life work too remote from the enthusiasm of youth to be entirely successful. I believe in developing to some extent in our calling, whatever it is, before our physical and mental development is completed. Unquestionably it will assist in the direction of a mutual adaptation. In the present age of exacting demands and sharp competition, a high degree of adaptability is absolutely essential to success. The medical profession should never be found guilty, even in the remotest degree, of favoring requirements for the purpose of increasing the difficulties of the students on the ground that we now have a supply of doctors equal to the demand.

Perfect coöperation by all the members of the Missouri State Medical Association in the matter of medical defense will result in great good. The motives of practitioners in all departments of medicine are second to those of individuals in no other calling. Yet there is a greater disposition on the part of the laity to bring damage suits against our members for alleged malpractice than exists anywhere else. Most of these cases are blackmail, pure and simple. Often they are instituted merely to evade the payment of a bill. Usually they are encouraged by some envious and unprincipled fellow-member, in collusion with an equally unprincipled attorney. A meritorious damage suit seldom occurs. Sound advice would be to settle such exceptional cases out of court. Any member of this Association guilty of encouraging a damage suit, or who is willing to lend his influence in the prosecution of such a case, should be ostracized, or summarily expelled.

Reports show that when medical defense has been adopted by state associations, great good has resulted. The percentage of suits has fallen off greatly, while damages are almost never allowed. When the public learn that our profession is a solid phalanx against unscrupulous attacks of this kind the disposition to sue for blackmail and fancied damage will be corrected. I know of practitioners who refuse to treat fractures and other classes of cases, without the association of another physician.

This causes delay and expense to patients, and yet the disposition to sue in some neighborhoods warrants it. Others keep their property out of their name to be in a position to withstand dishonest onslaughts.

The subject of expert testimony by members of our profession is an important one, and should receive consideration by our state organization. Medical expert testimony, as at present managed and used by the legal profession in sensational cases, has done much to blemish our character and lower our standard in the estimation of the public. Medicine is not now and never can be an exact science. Every intricate case thoroughly analyzed will disclose mooted propositions. These are usually of minor importance and, as occurring in consultation on the diagnosis or treatment of a patient, amount to little or nothing. But when brought out in a case in court and adroitly used in hypothetical questions, experts are made to appear to the public as arrayed directly against each other, even where there is no serious disagreement on the other main propositions. Such circumstances, associated with rumors of large fees, have discredited us immensely.

An expert should be learned and absolutely above reproach. We have such men in our ranks representing every department of medicine. The great desideratum in the interest of justice to the State and the standing of the medical profession is that only such men be permitted to serve as experts. How can we accomplish this? Can it be so arranged by common consent that our state organization furnish a list of members from whom experts must be selected?

In competition with medicine at the present time are numerous medical fads. Something similar has always existed. Therapy in any of our recognized irregular schools of medicine is simply a fad, differing from other fads in being based upon a knowledge of the anatomy, physiology, etc., of the human body. The chief other fads of to-day are Christian Science, Osteopathy, and the recently promulgated Emmanual movement. My object in referring to them is to show that the regular medical profession is in great measure responsible for their existence. Every one of them has a foundation of some sort, otherwise it would be impossible for them to flourish even for a short period. Each superstructure, however, has grown so large as to overhang and obscure its base. This resulting top-heaviness will ultimately result in the overthrow of all of them, and the glad day can be hastened by a recognition of the etiology, clinical history, pathology and therapy in each individual fad, and greater liberality on the part of the members of the regular medical profession themselves. I do not mean liberality in the sense of consultation with and a recognition of their worth, for I do not believe they have any, but in the sense of recognizing that we are responsible for them by having been too conservative. The growth of the science and art of medicine has been simply marvelous. We cannot cling to old traditions of therapy, neither should we too hastily accept new. We must

not for a moment conclude that our therapeutic knowledge of any disease is complete.

The present day attitude of the regular profession has just about finished homeopathy and eclecticism. Probably the effect of medical legislation, in compelling them to keep their bases as broad as ours, has done much to liberalize them in their therapy. At any rate, they are fast forsaking their craft. Students associating with those attending regular schools are apt to forsake them before finishing.

The principles and benefits of massage have been understood, but not properly appreciated, taught, nor practiced by us. The present success of osteopathy rests upon this fact: Osteopathy, literally speaking, is "bone-opathy." In its beginning it was predicated upon a belief that when we had pain or other evidence of disease that some bone was out of position. Later, they did not confine themselves to the theory that a bone was necessarily dislocated, but that some other organ or tissue was out of place. Although the possibilities for the success of the fad, on account of the sensitive and responsive state of mind of the laity, are passed understanding, this base was early found too small, and it grew and gravitated toward the above-mentioned low point in our armamentarium. Although but a few years old, about all there is left of the original osteopathy is the name, yet the range of their practice is now as broad as ours. I have found them massaging cases of acute peritonitis, diphtheria and herpes zoster. One of the best illustrations of the preposterousness of their pretensions is embodied in what one of their cult, of sufficient standing to be called from Kirksville to southern Illinois to treat a case, told me while en route. He said, as an illustration of the possibilities of osteopathy, that a patient who had gone the "rounds" in the regular profession without benefit, applied to Dr. Still. Upon examination it was ascertained that the eighteenth division of the multifidus spinæ muscle was dislocated. Manipulation restored the normal relations and the patient was instantly and permanently relieved. I then told him I was teaching anatomy and was familiar with this particular musculo-fibrous cord and regarded his statement as preposterous. He did not even blush. Had the regular schools taught the principles and application of massage in the art of medicine, osteopathy would never have gained a foot-hold. If properly taught now it will soon cure the fad.

Without pretending to discuss the tenets of Christian Science, it is our understanding that they deny the existence of disease. They recognize the divine source of the human body and invoke aid from the same source in regulating and restoring its perturbed functions. The pretensions of the Christian Scientist are in a higher degree preposterous in the estimation of a member of the medical profession than any other fad that ever existed. Unrestrained by law, their practices would result in great injury to the human race. Refusing to recognize the existence of disease, they cannot take cognizance of the contagiousness and in-

fectiousness of such diseases as scarlet fever, smallpox, diphtheria, measles, etc. For them to recommend the quarantine to prevent the spread of such diseases would necessitate the appreciation of a causative agency for such diseases which could be transmitted from the bodies of the sick easily to those in health. Their so-called cures always refer to the restoration to health of patients afflicted with some condition which has no appreciable pathology. They also take credit for the cure of patients afflicted with diseases which normally are corrected by the inherent forces in the bodies of the patients themselves. At first they pretend to cure all manner of disease; now, some of the more liberal do not claim ability to cure surgical diseases. The whole cult will soon be driven to this position.

From a surgical standpoint nothing is simpler than to diagnose and drain an abscess of the lung, diagnose and remove a fatty tumor, or diagnose and remove an ovarian cyst, for instance. These are mere, everyday examples of what is occurring in the practice of surgery, and yet the Christian Science healer would either have to deny the existence of such conditions, or admit his inability to influence favorably any of them. Practitioners have had too much empirical faith in their remedies. We have been too much given to prescribing nauseating doses for the correction of conditions which did not require medicine at all. A proper sanitary regulation of the patient's surroundings and habits, with a little mental encouragement, would have served the purpose of the case much better. At the present time the number of patients whom the doctor could satisfy without actually giving them a prescription, is small but is growing. If we endeavor to benefit our patients by making proper recommendations unaccompanied with medicine, the number that would be satisfied without medicine would rapidly increase. It is the objection of many people to taking medicine that causes them to turn to Christian Science. If such patients learn that they could get scientific recommendations without medicine, it is a logical deduction that they will not turn to Christian Science for relief.

The Emmanual treatment is in some respects similar to Christian Science. However, they do not pretend to be able to heal diseases, essentially surgical, nor to manage medical cases independent of a regular general practitioner of medicine. Their plan is to coöperate with the surgeon and the general practitioner by invoking divine aid in the restoration of the health of the patient. Every doctor endeavors to promote a reasonable degree of optimism in his patient to promote his convalescence. He believes that the benefit is due to the normal functions of the nervous system of his patient and not from any divine or outside influence. The state of the nerve centers has much to do with the action of the vasomotor and the vasodilator nerves, which regulate the circulation of the blood in the tissues upon which the tissues depend for nutrition, and the ability to ward off or overcome disease. The practitioner of the Emmanual movement cult seeks to invoke the divine

aid without pretending to understand minutely the physiology of the human body to secure the same result. It is my prediction that unless this fad soon runs its course its healers will become tired of coöperating with ordinary mortals in the management and cure of disease, and that they will go bag and baggage into the Christian Science camp.

It has always been a matter of sincere regret to me that the organized medical profession was capable of exerting so little influence. The situation is paradoxical. The confidence reposed in a family physician by his patrons is equaled only by that which mutually exists between the members of a well-bred family. It would be a safe deduction that the placebo effect of his prescriptions exceeds their actual physiologic effects. Consternation produced by forebodings as to the consequence of some slight injury is promptly succeeded by a calm upon his assurance that their fears are groundless. His character and ability are exaggerated in the minds of the whole household. There is, we must all admit, a greater disposition to appreciate his professional service than to remunerate him for it. Because of the peculiar esteem in which he is held by the people he is usually placed at the foot of the list of those to whom they are indebted, and which list of indebtedness it is their intention to liquidate in chronological order. He is not thought to be subject to the customary worldly necessities. He seems to be so willing to forego pleasures and make personal sacrifices for his clientele's benefit that many people believe he has no desire nor necessity for recreation in the customary deviations from the humdrum of everyday duties.

But as soon as he attempts to coöperate by organization with his fellow-workers for his personal scientific betterment, which would ultimately redound to the benefit of his patrons, or to secure medical legislation for the purpose of favoring an application of scientific knowledge to the solution of problems of sanitation, for the express benefit of the public and the limitation of his own work, his motives are immediately questioned. He is charged with attempting to influence legislation for the purpose of securing some personal advantage. The laity seems ready to believe these things. I once knew a candidate for the legislature of this State who repeatedly charged his opponent, when electioneering, with having attempted, when a member of the legislature, to secure legislation which would compel people to pay doctors larger fees. The character of the man made it nonsensical. I happen to know that for years he practiced without keeping a book for accounts. He repeated the charge while addressing a political meeting in my presence. I challenged his statement and he admitted he had no proof but had heard it said of him. Many of the people believed it, however, and it was his chief slogan in getting himself elected to the legislature, although there was no foundation whatever for the accusation.

Occasionally we hear a member of our profession challenge the honesty of purpose of those attempting to get improvements in our medical legislation. Perhaps these challenges have much to do with

the present attitude of the people in chafing under all sanitary restraints. Those living in cities, or in rural communities, temporarily affected with an epidemic of some highly infectious disease, like smallpox for instance, are constantly reminded of the attitude of the inhabitants against what they deem infringements on their personal rights.

Contemplate for a moment what would follow in a large city like the metropolis of this State if all sanitary laws were suspended and the inhabitants were permitted to do as they please in all matters affecting their health; children would be found in school, on the street cars, and playing in the streets, spotted with the eruption of smallpox, in the desquamation stage of scarlet fever, and convalescing from diphtheria. I personally know of an instance where a young man broke away from the restraining influence of the law while convalescing from scarlatina, and went to the country and was the direct agency in causing the death of two children, besides much other worry, heartaches and expense.

Notwithstanding our boasted present day intelligence and spirit of tolerance, it requires the strong arm of the law to compel people to take advantage of their opportunities in preventive medicine. They must be compelled to conform to sanitary regulations. And yet it requires no stretch of the imagination to see that the greater the restraining influence in preventing the spread of disease the more the work of physicians is curtailed. In other words, the interest manifested by the medical profession in preventive medicine cannot possibly serve selfish ends. Could we succeed in realizing our ideals our vocation would be sacrificed at the shrine of public duty. A loftier purpose has no existence. A logical deduction would be for our profession to be a unit in this grandest of work supported heartily by an intelligent, public spirited laity.

Can it be that the people object to the personnel of our profession? It would not please me to be twitted of scolding, and yet we all know that our conduct is not always calculated to inspire the degree of confidence the serious character of our work requires. Could the husbands, mothers and friends hear the frivolous conversation in the doctor's wash-room just prior to an operation, when a life is at stake and entitled to the most intense, serious and exclusive application of all known surgical measures for its relief, many an operation would be abruptly called off. Perhaps, on many other occasions, and more or less always during our routine labor, we are brought in contact with our patrons, this criticism holds good. Do we live up to our best information in matters of diet, drink, rest, the use of tobacco, etc.? Quaintly put, should it not be one of our important duties more nearly to practice what we preach? If by so doing we increase our influence for good, it certainly is.

THE TREND AND BENEFITS OF MODERN MEDICINE.*

By Robert H. Goodier, M. D., Hannibal, Mo.

It is with feelings of pride and gratulation we hail the progress and splendid achievements wrought in scientific medicine, especially through the last semicentennial of its history, as relates to improved methods of diagnosis, the interpretation and association of clinical and pathological manifestations and prophylaxis.

The physician has developed a very definite science in the examination of vital internal organs, whereby he apprehends and classifies certain morbid signs in physical diagnosis that enable him to locate and differentiate organic lesions peculiar to their economy.

Like the trained pianist, who knows by touch and ear the harmony of his instrument as he runs the gamut of its chords, so the physician, by auscultation and percussion, appreciates any alteration or departure in the rhythm and harmony of physiological unison. He also elicits the topographic boundaries of organs and determines change of position, alteration of structure, as relates to size or density, as well as evidence of perverted function, as indicated by a relative increase or decrease in normal dulness or resonance, with attendant subjective symptoms. By stomach analysis he predicates with remarkable accuracy morbid changes in its mucosa and mural organism. Again, by the use of many other ingenious aids and methods, he is constantly acquiring deeper insight and understanding of physiological processes that enable him better to appreciate disturbances or pathological changes in the physical economy, as well as the nature and etiology of the same. Moreover, the medical profession is the most vital and utilitarian of all human systems, and its benefactions are universally public and unselfish. The physician is absolutely unique in his example of disinterestedness and self-sacrifice. So high is his regard for, so responsible his duty to, individual as well as public welfare, he throws the protective ægis of his experience and knowledge over against the fateful conditions that assail these interests, without thought of reward, and ofttimes unmindful of his own personal security. In the Johns Hopkins University there is a memorial tablet sacred to the memory of Lazear, who lost his life demonstrating research experiments in yellow fever on his own person, that could not be tried upon lower animals; the tablet bears this inscription, by President Eliott: "With more than the courage and devotion of the soldier he risked and lost his life to show how a fearful pestilence is communicated, and how

*Oration on Medicine read at the Annual Meeting of the Missouri State Medical Association, Jefferson City, May 18, 19, 20, 1909.

its ravages may be prevented." Medical annals can furnish many such illustrious characters and examples of heroic sacrifice. Indeed, in almost every grievous epidemic of disease or plague-stricken epoch, the profession has not been lacking in evidence of the greatest moral heroism, and multiplied instances of where the physician made oblation of his life to the same high ends and purposes as did Lazear. Earning his livelihood by the practice of his profession, the physician yet generously seeks to suppress and prevent conditions that would engage and richly reward his services. Were he sordid or mercenary would he search out and teach sanitary prophylaxis? Would he isolate and quarantine infectious diseases, whose outbreak bring him substantial gain? No, the medical profession is not a royal road to wealth, and very few who enter its ranks make more than a mere competence; but the canons of its faith are not measured by the low standards of selfish or commercial interest. Its profession, however, may be made the unobtrusive way to the respect and veneration of local communities, replete with burdens of duty and soulful experiences.

Life has some heritages more valuable than gold, begotten of the truest admiration and closest confidences of our fellow-man, and the true physician, often rightful heir to such legacy, does not lightly esteem its meed of honor. There are some folk, however, of such low appreciation and weak moral perception, who look upon the physician as an alien,—a kind of professional cormorant living off the misfortunes and afflictions of the human family. Such a conception is basely false in its prejudice and does the physician great injustice. For, not only is he life's burden bearer, the faithful counsellor and arbiter of the moral transgressor, but the strongest earthly reliance in the deep, tragic hours of human extremity. The modest stipend charged for his services is not a tribute levied off the distresses of his fellow-man, but an honest, just compensation that enables him to live and properly qualify himself as the templar of life to meet its time of need. In the burden and heat of the day he struggles on under the cross of his responsibility, with hope and faith as the girdle of his loins, and none too poor to summons his help when his hand can life up or his art assuage suffering. Surgery is a complementary science—a most salutary and, at times, an indispensable adjutant to medical necessity. But of late years the singularly fascinating attraction of its art has made decided inroads upon medical treatment in some pathological conditions, where might properly be raised the question of most efficient ministry. And while the surgeon's exploitations in morbid pathology are ofttimes the envy of his elder and more conservative brother, the glamor of the art and its spectacular situations too readily recommend its practice to the professional neophyte. I suppose ninety-nine out of every hundred medical graduates, immediately on leaving school, essay some surgical stunt, or long to do so; and what they lack in knowledge and experience they substitute in an inspiring self-confidence. They have some implements of the cult, especially the scalpel, and they

feel its tempered, polished edge with all the ardor and enthusiasm the young Knight Errant does his first Damascus blade. All they lack to develop the embryo surgeon is patients, or, more aptly speaking, victims. After a brief time, not unmixed perhaps, with some fateful experiences, they discover their aptitude is not surgery, however much inclination disposes them to the imbrued art. My medical friends, let us be prudent and leave surgery to the surgeon, save in minor degree or under very pressing emergencies.

We have quite enough to do learning our own profession, and very rarely can one mind, however versatile and profound its attainments, master the principles both of internal medicine and operative surgery. Besides, the resurgent spirit of modern medicine is marking out a new order of evolution in morbid pathology. The *vis medicatrix naturæ* more intelligently interpreted and rationally assisted, will yet make signal proof of its conserving protection, as well as its ability to build up and establish healthful resolution in most morbid conditions that have not been neglected, badly managed or where the taint of heredity and environment does not too fatefully handicap. In this connection I would not be understood as in any sense derogating surgery, nor seeking to steal one petal from its rose garlanded glory. The records of its splendid achievements in morbid pathology are too signal in triumphs, and the human family too greatly debtor to the skill and technique of its marvelous handicraft for any feeling other than the most just laudation of its beneficent genius. The sentient sweep of the surgeon's knife is too often the supreme, sovereign arbitrament between lethal and vital issues for any sentiment other than our profoundest appreciation and gratitude. But the true physician is professional primate and the great surgeon is his *dernier resort;* some, and many, times their work is beautifully complementary. True to his ministry the physician is the standard bearer in the vanguard of civilization's march, and more potential the tokens of his art in resolving mystery into knowledge, evil into good, than all the auspices of ancient Sibylline of Delphic oracles.

With this review of the field representative or clinician of our profession, let us pass to the consideration of another bright, constellate contingent of our noble ministry. Down there is the laboratory, with his test tubes, microscopes, reagents, sections and cross sections, is the great dynamic source of all our best inspiration and progress. Here is the biologist unravelling and revealing the secrets of nature, classifying morbid phenomena and interperting natural vitalism. Behold the vivisectionist! bold and aggressive in his search of proximate principles,—the vital spark underlying and superinducing natural phenomena, led by hope as daring, cheered by vision as beautiful as that which inspired Sir Launfal in his quest of the Holy Grail. Laboratory experiments and research constitute the groundwork of all scientific medicine, and mark a new era in its history,—a transitional period or evolution from an empiricism of wild vagaries and incredible potencies, promoting strange

dogmas or formula into a rational, progressive, beginning cosmic system of definite cause and effect.

In the deductions and conclusions of this new concept determining germ etiology of infectious diseases, modern medicine had its birth. In its natal glory stands the silhouetted figure of one long since entered into rest. And with benediction peace, bending over the issue of promise, impregnated by his thought and genius, the spirit of the immortal Jenner clasps hands with the now inurned Pasteur, upon whom the mantle of this ascended Elijah had fallen. Their labors have not been in vain for, in many fateful conditions, they have challenged the angel of death with the passover sign on the lintels of our earthly tabernacles. The study of morphological and chemical bacteriology was the first step in the new nosological order. The human organism found, at times, to withstand the contagium of infectious diseases, led to a closer study and observation of the expression and nature of such diseases and the immunity enjoyed by some individuals. Later it was determined that the organism itself under certain conditions, became a very resourceful and capable arsenal of defense against microbic infection, constituting, when its antagonism was absolute, a state of natural immunity. When such a state obtains the antitoxins, phagocytes, agglutins, precipitins, lysins and opsonins, imminent to normal vitalism, exhibit a very certain resistance to bacterial energy, as indicated by a positive body index under exposure. When for any reason the body index becomes negative or incapable of successful resistance, immunity is lost and the organism susceptible to any special form of infection to which it may be exposed. In the latter instance modern medicine seeks to establish a condition of prophylaxis by means of a protective vaccine,—itself a bacterial protoplasm having the property and type, but modified in character from its original bacterio-protein; or, again, by the injection of antitoxic blood serum from an immunized source. In either instance, whether by means of vaccine inoculation or injection of antitoxic sera into an infected or susceptible organism, it is sought to increase the resistance and excite a reaction whereby the antibodies and other defensive elements are elaborated and act upon the microorganisms and their toxins so as to render phagocytosis and bactericidal energy much more effective and prevent infection.

The problem in the use of prophylactic vaccines has been to give the proper immunizing protection without the incident danger of bacterial toxemia. Pasteur first contended it was necessary in the production of preventive vaccines to use the living bacteria, but it has subsequently been demonstrated that dead cultures and even extracts from bacteria may be sufficiently potent and relatively free in danger to the host. It is also an accepted fact that protection by vaccine inoculation confers a more positive immunity than is obtained by antitoxic serums.

And preventive medicine will, in the future, no doubt, perfect methods of inducing positive immunity by protective vaccines of sterile culture, and in instances even of the attenuated living microbe. Some

notable work and progress is being made in prophylaxis, in consonance with which the experiments and deductions of Mr. Wright, of London, and other able collaborators are attracting much attention to the value of opsonic indices.

In the study and demonstrations of late research we are getting a more definite knowledge in regard to phagocytosis and its role in ingesting microörganisms and their toxins, as well as the diagnostic and protective value of certain prophylactic vaccines. Phagocytes are ubiquitous warriors, and the organism's chief defenders when properly supported. Surely, they are garrisons of strength, brave and alert to every sentry call in defense of the physical integrity; in the blood stream they constitute the white or arterial squadron, but they as suddenly disembark to engage any interstitial danger when they become our amoeboid cavalry. Now, do not understand me to ascribe phagocytic behavior to any sentient force resident in cell activity; what they do is the result of a chemotactic action directed and operating involuntarily, yet in obedience to an inherent property or quality peculiar to vitalism in its reaction under chemico-physiological stimulation.

There are doubtless many other allies of organic defense—many cohorts of vital conservatism of which life is the beneficiary, whose methods we cannot intelligently elaborate at this time. The web of mystery still covers their secret, but busy hands and alert minds are on the path of cause and effect, and will soon find an open portal of truth. If hidden conditions still conceal many goals of knowledge we are yet able to rejoice in many discovered truths and signal triumphs that mark the closing days of the nineteenth century; and we step upon the threshold of the new century with strong endowment of garnered wisdom and the shibboleth of victory.

Epidemics of typhoid fever, scarlet fever, dysentery, diphtheria, *et cetera,* are no longer a menace to the public welfare, and when such outbreaks occur it is an accusing witness of unsanitary conditions and moral irresponsibility on the part of local communities and their professional guardians.

Statistics of decreasing mortality rate under methods of modern prevention show astonishing results and unmistakable proof of the conservative protection guaranteed by a progressive medical science. Without an intelligent exercise of its precepts, mortality, to-day, in our great metropolitan centers, would be quickly swallowed up in death; our crowded tenement districts would be charnel tombs where the stench of the dead and the groans of the dying would stifle the joys of the living; our armies in the field would be decimated by pestilence more frightful than all the havocs and horrors of war.

In this connection I quote from a late paper by Dr. Torrey, of Cornell University, who says: "In the seventeenth and eighteenth centuries the death rate throughout the civilized world ranged from 50 to 80 per thousand of population, whereas to-day, in London, Berlin and New York

City, great centers of population, the ratio is 17 to 19; and, that since 1873 there has been a reduction of more than 50 per cent. in the mortality of children in New York City. An actuary of the health department estimates that the expectancy of life for that city in 1866 was a little more than 25 years, while in 1903 it was nearly 42 years."

Again, he states: "In the wars of the last two centuries four men died in camp of disease to one from wounds received in battle, whereas according to Japanese statistics in late wars, only one died from disease to two from wounds." Such statistics are striking testimonials to the advance and triumph of medical sanitation, and should seriously challenge the attention of political economists, as well as legislative and judiciary councils. Under the new regime medical science suppresses and prevents disease, and its enlightened exponent, the doctor, no longer sits, a blind empiricist, with folded hands, in the midst of unsanitary conditions whose foul, stagnant media give fruitful culture and propagation to all forms of pathogenic infection; but, the sleuth of a high economic law of nature, he follows up the fastnesses of these lurking microörganisms and robs them of their habitat and power to harm. The ancients had their Hygeia, whose divinations and rites of office were only prefigurements of mystery, as gross in conception as the gods they worshipped in stocks and stones. But our Hygeia, to-day, is a living, sentient entity, walking the paths of human civilization in trailing robes of light, and potent in influence of saving grace. Yet for all the victories and notable benefactions rational medicine has wrought, and is still achieving, its best exponents have received tardy and little appreciation from society and state, in the past. However, recognition is, I think, just ahead. The light of so glorious a ministry cannot longer be hid under a bushel of blind incredulity or prejudice. Ephraim is breaking his idols; public opinion in state and nation is turning with favor to a ministry whose prophets have cried so long in the wilderness The Gospel of Good Health. At last the people have heard their voice as the voice of wisdom and are saying: "Come among us; dwell with us and fold thy wings of healing over us."

The day is not far distant when medicine will have her honored representative sitting in the highest cabinet of the nation, and watchful guardian of public welfare. I say without reservation that from no human system or agency does society and state receive greater benefits nor owe a larger debt or obligation than to the profession of modern medicine.

Through its instrumentality human life has been bulwarked and garrisoned with many potential prophylaxes and reprieved from the fateful doom of many blighting infections. In smallpox, vaccination gives such absolute protection that state legislation should make it compulsory on or before five years of age. State boards of health and local quarantine regulations should no longer constitute a defense to those whose prejudice and moral obtuseness refuse its protection. Antitoxin is specific antidote and sovereign hoon to the ravages of the Klebs-Loeffler bacillus, and when early and properly administered, almost or quite removing the necessity

for tracheotomy or intubation. Yellow fever was, but will be no more, being practically supressed; it is at least absolutely a preventable disease. And no more will we see the mournful desolation and hasty exodus of fleeing refugees from the stricken Southland because of its menace. Quinine has long been used in malaria for its antiperiodic and antipyretic effect, but its specific virtue was not intelligently appreciated until Laveran discovered the plasmodium malariæ, thirty years ago. Experimentations with sera therapy in meningitis, rabies and tetanus, while not definitely specific in their action, are so positive in indications of remedial potency as to inspire perfect confidence that the laboratory cry will soon be "Eureka." Statistics of unmistakable proof are behind this hypothesis and the seal of conquest will soon attest its truth. The weight of greatest value, however, at present in the treatment of these infections by antitoxic serums, seems to be prophylactic; and, in the early employment of treatment before the clinical expressment of the disease, or before their respective toxins reach the nerve centers.

In cholera, bubonic plague, dysentery and venereal diseases much fruitful investigation is being made and the results accomplished presage greater things to be. Tuberculosis, the great white plague, still stalks a deadly pestilence; it is life's relentless enemy; necrology's boon confederate, having all seasons for its own. Like some unleashed spirit of desolation, it rides on every wind, ladens every zypher's breath and lurks on lips where love's sweet caresses burn, and is Time's chief tomb builder. But even this inveterate foe is being closely beleagured by the Titan triads, sunlight, sanitation and pure air. The scientific adjustment of these correlative agencies plus certain formula of living, are greatly minimizing the ravages of this infection. The educational and sanitary crusade of the last few years has sought to agitate public interest and arouse both social and civic responsibility to an earnest, organized effort for the restriction and prevention of this contagion. Sanatoria, open air treatment and strict personal hygiene are greatly lowering its mortality to-day. Moreover, we are gradually, yet definitely, eliminating many accessory or contributing factors, such as the sweatshop with its reeking effluvia, and the squalor of our tenement districts, heretofore strongly incident, and predisposing, to the spread and ravages of tuberculosis. The impressment of child labor in factory and shop, with its fateful entailment of regressive changes, has also received decided check. Full emancipation must and will come as the enlightened public conscience appreciates its moral responsibility.

The work done may be said to be only preliminary, but the movement is pregnant with the impetus of success. Let us not slacken effort but press the educational feature, for enlightenment begets coöperative interest and zeal. Let the infected individual know the menace he is to society and the best methods of conserving its security; and equally impress the public with the safest measures of protection and its duty in employing all rational means of assistance for the prevention and sup-

pression of this infection. Koch's discovery of the tubercle bacillus is a notable step in advance, and will greatly aid further scientific research in its effort to determine methods for the control and prevention of this now prevalent disease. Tuberculin, after much disappointment and neglect, is again attracting favor. Some recent experiments, especially in early diagnosis, prove it something more than a commercial nostrum; and the hope is that it may yet, either in its present form, under more intelligent administration, or by some modification, attain a scientific value that will realize the faith of the distinguished pathologist. I wish I could speak with more hopeful assurance in regard to that most insatiable and malevolent of all despoilers of the human organism, cancer. The cancer cell is a very Medusa of cruelty in a rebellion with other body cells. It is a lawless alien, out of harmony with every law and condition, subject to no discipline, having no purpose save that of annihilation of the host. Science, baffled at every point, still wages a defensive, if not defenseless, warfare against this treasonable insurgent. The surgeon's knife, with no compromise of tissual territory, is our most available defense at present. But mind is stronger than matter, and its potential energies in resistless search will soon put this arch traitor on the cross of conquest. And the day is not far distant, let us hope, when the genius of mind driving back the terrors of this blight and curse, shall give to enthralled victims the boon of redress, and to the annals of medicine the glory and immortal fame of so great a benefactor. Back of all the achievements of modern preventive medicine, and the matrix of scientific research, are such splendid memorial laboratories as the Pasteur Institute, founded by governmental munificence in France in 1888; The Imperial Institute, at St. Petersburg, Russia, founded and endowed by Prince Alexander of Oldenburg, in 1890; The Lister Institute for Preventive Medicine, in Great Britain, founded by public subscription and large gifts from Lord Iveagh in 1891; the Koch Institute at Berlin, the Institute for Experimental Therapeutics, at Frankfort, Germany, in 1896, and in our own country, The Rockefeller Institute, founded and endowed in 1901 by the liberal munificence of John D. Rockefeller. These glorious monuments of philanthropic grace, like sun-kissed Memnon's statue, are vocal with praise and glad tidings of "Peace on Earth, Good Will to Men." All honor to the philanthropists who have caught the spirit of so lofty an enterprise; and who, whether so recognized or not by reason of the work they inspire, are patron saints not alone to medical progress, but to every hearth-stone where human hope has an altar of love. Such men scatter flowers and sunshine in our troubled peace, and make the world brighter by their living. And as we look upon their noble benefactions, dedicated to present and future generations, let us honor them in life and death; for, no man can give such fruitful hostages to human welfare unless his heart beats in unison to human need. The burden of our responsibility is to impress the necessity of more such laboratories, both state and private, where scientific research

can be prosecuted with heart and mind single to its great purposes and ends. The work, already so happily initiated, is full of inspiration and flushings of promise, and philanthropy's wealth can find no opportunity more golden, nor potential possibilities greater.

In our terrestrial world there is a vast increase and intensity of light from the twilight pencilings of gray in the eastern horizon, as the great sun luminary rises through cloud banks of nocturnal shadows to usher in the dawn, on until it reaches the zenith of the heavens where it floods continents in light. So from the crude taper gleams of medical art in the dawning centuries of our civilization to the present time the light of its knowledge has been growing and increasing in effulgence. Let us be proud of the advance, of the achievements wrought, and while not flattering ourselves that the *summum bonum* has been attained, let us consciously reflect we are helping the future race to its physical utopia, when shall rise a race beautiful in physical proportions, free from taint or stigmata of hereditary curse and environment, holding the distaff of its own longevity.

Then the centenarian will only have reached the summit of manhood's power and grace, and, in the venerableness of old age, patriarchs will again sit in the shadow of their tent door, while the gentle Rachels of the race, crooning love lullabies to their latest offspring, shall have no fear of the pestilence that walketh in darkness, nor the destruction that wasteth at noonday.

THE NATURE OF CANCER AND RECENT ADDITIONS TO THE METHODS OF TREATING INOPERABLE CANCERS.*

By Frank J. Lutz, M. D., of St. Louis.

I return to you my sincere thanks for this opportunity to present to the members of the Missouri State Medical Association, and through them to a wider circle, a review of our present knowledge concerning the nature of cancer and, based upon it, the limits of its treatment.

Cancer is world wide in its distribution. Concerning its biology medical knowledge is crude and immature; it occurs upon the surface of the body and in the internal organs; it exists before birth; it saps the full grown body and increases the burdens of ripe old age. Animals and man are afflicted with it. Its presence entails horrible, loathsome suffering. Internal medication fails to cure it; the charlatan only, and the quack and ignoramus instill false hopes of recovery into the heart and mind of the doomed victim in exchange for his gold.

What a field for science! What opportunities for philanthropic endeavor!

Cancer is a disease of the skin, mucous membranes, or of the glands in which tumors are formed. These tumors grow by the proliferation of their tissue elements, at the site of their origin and in other localities to which they may be carried by implantation, or by the blood or lymph currents; there is no limit to their growth; they displace and injure neighboring structures; they have a tendency to disintegrate so far as their older component elements are concerned, thus loosing parts of their substance by ulceration, and they destroy the body by producing a cachexia and by auto-infection. This definition, as is apparent, expresses the clinical observation of the disease.

Morphologically a carcinoma is a tumor in which the stroma and the parenchyma are distinctly separated. The parenchyma cells do not form an intercellular substance and do not enter into organic union with the stroma, in contradistinction to the sarcomata, in which an intercellular substance is formed by the parenchyma cells and direct continuity with the stroma is established.

At once the question arises: What causes this riotous and purposeless cell proliferation? This old question has been answered upon many theories. I shall not review any of them, but will simply mention that during the life history of a cancer the behavior of the tumor is such that many very acute and experienced observers believe themselves justified

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in assuming the parasitic origin of cancers, and have directed their energies toward the discovery of the microörganism; whilst others have asserted that they have found it. Equally careful investigators, more particularly the pathological anatomists, deny the causative relation between the microörganism and the new growth, some admitting the possibility of it, others as strenuously gainsaying even this.

I need not repeat to you that in order to prove clinically the existence of a specific microörganism it must be shown that the microorganism is transmissable from man to man and that the disease produced by it is inoculable.

In spite of the extensive investigations which have been made, this proof has not as yet been furnished. The transference of cancer from one part of man to another part, or from a cancerous person to a healthy one, are not instances of inoculation but of transplantation, and the alleged inoculation of a husband by his wife, or of an operator by the patient, are reasonably explainable upon other grounds than the inoculability of cancer.

But let us view the cancer, or rather the cancer cell, so called, from the general viewpoint of biology.

Nature has no pathology. Since the days of Bichat and Laennec and the epoch-making work of Virchow, it is well established that pathological processes are subject to the same laws which govern physiological processes. The laws of biology furnish the explanation for the phenomena observed in cancer. Our knowledge concerning the minute changes which are observable in cancer has arrived at a high degree of accuracy—in fact it would appear that the very limit of anatomic information concerning this disease has been reached.

What then are the peculiar characteristics of a cancerous new growth; and how can we explain them by the general laws of biology?

It is well proven that want of nutrition and over-feeding, as well as irritations of all kinds, produce cell multiplication.

By way of illustration: Gunshot injuries to nerves are followed at first by increased growth of the epidermoid structures, the hairs and the nails, soon to be followed by their atrophy. Uterine cancers take on a more rapid growth during pregnancy. An erosion subjected to constant irritation may develop into a cancer.

The low vitality of cancer cells is as pronounced as their exuberant growth. Observe the luxuriating callus in certain fractures—increased cell formation continues as long as the irritation lasts, and only after the irritation ceases, and with it the increased nutrition, does absorption take place—otherwise a cellular new growth is formed. Regeneration is but an exaggerated normal process, and physiologically organs and tissues are constantly renewed, each cell being supplanted by one newly formed.

Temperature, water, osmotic conditions and light have their potent influence in cell development, both in the animal and vegetable kingdoms.

Rapid frequent cell multiplication follows increased nutrition. In cancer the supply of nourishment is constantly increased and hence follows rapid cell production. The less developed a cell, the more speedily and the more frequently does it multiply—and a cell which produces daughter cells, whilst in a stage of immature development, transmits to its offspring the tendency to propagate itself during a low stage of development and to produce cells of smaller size. Rapid development is the characteristic of small lowly organized beings—applied to cancer it is well established that as the tumor grows the cells become smaller and develop more rapidly, presenting greater malignancy.

Has our therapeutic success kept pace with our knowledge concerning the minute structure and our biologic knowledge of cancers? Unfortunately the word "cure" is still part of the vocabulary of the physician and surgeon as well as of the laity. The average medical man thinks of a cure in connection with an external cancer, and takes only that wider view of the object for which treatment is instituted in this disease when the new growth affects an internal organ. Too much is expected because too much has been promised in connection with the efforts of medical men in the presence of cancer. The layman who is told that his disease is cancer at once asks the question: Can it be cured? The physician, unfamiliar with the clinical course of cancer, or lacking the moral courage to confess his impotency, in many instances answers the query in the affirmative, only to be doomed to disappointment, together with his patient.

Now what may be expected as the result of treatment? In malaria, an infection by the plasmodium, we have a specific in quinine. By administering this drug and by removing the patient to places not infected with mosquitoes or by destroying the carriers of the infection, we cure our patient. By removing the ingesta, which caused the ptomain infection, the patient is cured. A pneumonia, running its natural course, terminates in the recovery of the patient and, in so far as the physician has guided him through the series of disturbances grouped under the head pneumonia, the physician has cured him. Not so with cancer. In speaking of the cure for cancer as the result of anything which the physician might do, we must keep in mind two things: First, that we are dealing with a local disease, and secondly, that this local condition undergoes such disintegrating changes as to affect the general system. The answer, therefore, as to whether a cancer, in a given instance, is a curable disease, will depend upon the local condition, upon the nature of the tumor, the extent to which it has involved the neighboring structures including the glands, and the general condition of the patient, which is represented by his toxic condition.

The recognition of the nature of the local disease, or, in other words, a correct diagnosis, calls for ability acquired only by careful study and by experience. The diagnosis of a cancer upon the surface, when first it begins to develop, is by no means an easy matter. And when located in

organs not directly approachable, it calls for the exercise of the highest diagnostic skill, and presents problems the most difficult of solution. To illustrate:

A fissure in the mucous membrane of the lower lip, associated with the oft-produced irritation of the stem of a pipe, may be a cancer, but it may also be luetic. An incipient carcinoma of the stomach calls for investigations prolonged, painstaking and extensive. The mammary carcinoma, represented by a hard, nodular tumor, with a retracted nipple or dimpled skin, and with axillary glands hardened and enlarged, is correctly interpreted by one of very limited experience. Malignant new growths in the central nervous system, the brain or the spinal cord, give rise to symptoms by no means readily deciphered.

I refrain from reciting the local characteristics of cancer; a knowledge of them is the common property of medical men. But an extensive experience leads me to believe that the question of treatment is one upon which most practitioners are not agreed. A rapidly growing tumor infiltrating surrounding structures, hard, painless, fixed and associated with the peculiar cachexia indicative of the absorption of toxins into the general circulation, readily suggests carcinoma to one of experience.

Unfortunately, in spite of the great frequency with which cancer occurs, medical men have not given that attention and acquired that skill in its recognition which is possessed by them in regard to many other equally common affections. The knowledge of medical men, and of the public, concerning tuberculosis has been wonderfully increased during the last few years by an agitation which threatens to overshadow every other consideration in matters medical and sanitary. A similar agitation, less noisy and more conservative, is going on in regard to cancerous diseases. In the education necessary for the recognition and appreciation of this condition the medical profession must begin by first educating itself and then the public.

It is not the part of wisdom to rail against the quacks and pretenders whose diagnostic skill may surpass that of the physician, who justly criticizes the methods and promises of the pretender, but does not possess equal diagnostic skill and is on no higher plane concerning the limitations of therapeutic endeavor in cancer than is the quack.

Since history has been written cancer has been known and described as a destructive, incurable disease, and physicians and surgeons have at all times sought means to combat it. But not until the 18th century do we learn of an earnest warfare against this terrible affliction, as it found expression in scientific observation and investigation, as well as in the care of the unfortunates.

As early as 1701 a ward was set aside exclusively for cancer patients in the Middlesex Hospital in London, and in 1801 a society for investigating the nature and cure of cancer was formed. A few years later Mrs. Adithea Mary Stafford gave 36,000 pounds for the endowment of 26 beds for cancer patients. In 1851 the Brompton Cancer Hospital

was founded. In France a ward in the Salpetriere was assigned to these afflicted ones and many prizes were established in order to encourage the study of this disease.

I refer to these historic facts merely to show that general attention was directed to the disease by medical men as well as by philanthropists long before the time when the biologic study of it was begun.

Positive knowledge of cancer was of slow growth and exact study of tumors began only with the development of pathological anatomy.

The great Berlin physiologist, Johannes Mueller, was the first to show, by microscopic examination, that tumors are composed of cell elements which correspond to those of the human organism—and Virchow elaborated in detail the composition of the varieties of new growths.

We must, therefore, first learn to recognize the disease and then we must be familiar with its clinical course, as regards the result of its continuous growth upon the economy and eventually upon the life of the patient; and also must we know what have been the results of the various methods of treatment by which the disease has been either removed by surgical operation or attacked by other means.

Extensive knowledge gained by clinical experience furnishes the best foundation for honest dealing with the patient. Ignorance only makes prognostications in conformity with the wishes of the patient. We know, and this from the universal experience of observers, that by far the largest number of cancers, whether treated by one method or by another, whether removed by the knife or destroyed by escharotics, return. We also know that the clinical course of cancers is erratic; that no definite law governs their course and termination in all instances. We know that there is a natural cure for cancer; we know that nature endeavors, and successfully, in many instances, to counteract locally the disease by destroying the tumor soon after it is formed.

In our own day the scientific and practical study of cancer has attracted not only the attention of individuals but societies have been formed in all countries for the study of its medical and sociological bearings. The study of cancer has received an unusual impetus by endowments on the part of philanthropists, of hospitals and laboratories. Much work is being done, especially in Europe, by societies devoted exclusively to its study, aided and assisted by the governments of the respective countries. The fruits of these endeavors were thought sufficiently great to induce the second meeting of the International Surgical Society, which held its session in September, 1908, at Brussels, to devote the larger portion of its session to the consideration of cancer. It was my privilege to attend this meeting as the representative of the St. Louis Skin and Cancer Hospital, and submit our modest contribution to its truly wonderful exhibit. It will be no digression from our subject to say that the contributions to the cancer exhibit of this Congress afforded an opportunity rarely enjoyed. The illustrations furnished by the pathologists, the exhibitions of patients upon whom various operative

procedures had been practiced, the means and methods adopted in the laboratories and the results of laboratory work in regard to the biologic characters of cancer, as well as the exhibition of instruments of precision and of plans of hospitals devoted to the treatment of cancer patients, have never been equalled.

So far as I know, only the state of New York is governed by a spirit so broad and so elevated as to take into consideration cancer as an important factor in the health-disturbing causes among its citizens. It makes annually a dignified appropriation for the purpose of studying this disease in the hospitals and laboratories at Buffalo, and from that center have emanated many suggestions of value about this disease.

It should be a matter of congratulation to the citizens of this State that among its charitable institutions is one devoted exclusively to the study and treatment of cancer. I refer with pardonable pride to the George D. Barnard Free Skin and Cancer Hospital of St. Louis, recently endowed by this distinguished philanthropist. Since first its doors were opened to these unfortunates on the 1st of June, 1905, until May 1st, 1909, there have been treated in it 881 cases of cancer of all varieties.

It has for its object, first, the amelioration of the condition of the unfortunates afflicted with this dreadful disease and to whom, when they have reached the incurable stage, other institutions, whether conducted as charitable or whether a return is expected for the care of the patient, furnish no welcome shelter. In the next place it is intended that from this institution shall emanate such advice to the medical profession as is the result of the experience there gained, and therefore ample provision has been made in it for treatment by all suggested reasonable methods.

In addition, one of the great objects for which it was founded would not be accomplished were the medical profession deprived of the opportunity to study and observe for themselves in its wards the cancer disease, and before long those who desire to take advantage of it will be afforded a chance to avail themselves of the material for their personal instruction.

But besides the medical man the laity must be instructed concerning the nature and the behavior of cancer, as well as the possibility of curing it when eradicated early, or of ameliorating the conditions when the disease is so situated as not to be directly approachable by surgical means, or when its ravages are so great as to preclude the hope for its extirpation.

We have a practical working theory when we consider cancer an infectious and contagious disease, and its behavior practically justifies this, and therefore if knowledge concerning it is disseminated among the people, based upon this theory, the vultures who now prey upon the fears and sufferings of cancer victims will find their harvest materially reduced, although I am not so optimistic as to believe the time will ever come when human distress and human suffering will not lend a willing ear to promises of relief.

The direct attack of a malignant new growth surgically implies its thorough removal, the organ or immediate structure in which it originates or of the surrounding tissues to which it has extended, as well as the planes of extension, the fascia and fat structures together with the lymphatic glands which drain the areas involved.

When cancer occurs in organs or tissues from which it is not removable, or when its removal would necessitate procedures of themselves life-endangering, the institution of palliative procedures with a view to alleviating suffering and prolonging life will tax the technical skill and physiologic knowledge of the surgeon. The surgery of cancer, although operative possibilities seem to have reached their limit, has by no means attained results in keeping with the hopes of the operator. Entire organs have been removed, parts of a lung, sections of the brain, some of the organs of digestion have been extirpated in toto or parts of them have been removed, and the organs of generation have been excised, and yet with it all, if value is to be attached to statistical numbers, about 60 per cent. of returns confront us.

Fortunately, however, the time limit during which these returns occur has been greatly lengthened. Not so many years ago surgeons pointed with pride and much satisfaction to cases in which the patient, after an operation, had remained free from the return of the disease for three years, and considered such a patient cured. Already this period has been extended to five years and it is confidently to be hoped that as the disease becomes earlier recognized and the laity and physicians become convinced of the advantages which accrue from early removal, patients early operated upon will enjoy immunity from this disease for a still greater period.

I wish to emphasize in connection with the surgery of cancer, the view which I fear is not taken by many who consider the display of operative pyrotechnics the acme of surgical achievement. Operative surgery should be only a part of the treatment of cancer, although the major one; but we should never lose sight of the fact that in cancer there do occur disturbances of metabolism, either preceding the formation of the new growth or consequent upon it, which call for the exercise of much discrimination and for the knowledge of which we are just beginning to lay the foundation. Our increased knowledge of physiology and dietetics, including the administration of such drugs as arsenic and iron, gives promise to aid a cancer patient, next to the mechanical means employed for the removal of the new growth.

I said a few minutes ago that the clinical course of cancer is erratic—not governed by fixed laws. In some forms the growth of the tumor ceases without known cause and without intervention; on the other hand, experience teaches that in no inconsiderable number of cases, especially when the new growth is of a diffuse character, subacute in its behavior, when it occurs in young persons, the removal of the tumor by

the knife hastens its extension and return and the destruction of the individual.

Again, there occur in older patients slowly growing tumors which do not greatly disturb their comfort and which should be left severely alone, unless excessive pain, ulceration or hemorrhage demand interference. Between these extremes must be grouped that large class of malignant tumors in which early, thorough removal confers great benefits and promises complete cure.

For inoperable, neglected cases any method which gives promise of even ameliorating the condition should be welcomed.

The observation that the Roentgen ray affects the skin of those exposed, which was made soon after the discovery of the *x*-ray, led at once to its therapeutic use in cancer. Clinical experience has not sustained the enthusiastic claims of its advocates, but has restricted its use to superficial cases in which it causes destruction and exfoliation of the cutaneous cancer in the same manner as degeneration is brought about by other causes. And since this destructive process is slow and superficial in its action it has no advantage in many cases in which the disease can be permanently removed by a slight surgical procedure. Furthermore, it has no special affinity for the cancer cells and therefore when used so strongly as to destroy cancer tumors more deeply situated it also destroys the surrounding tissues.

It has been my practice, however, to give all cases, in which it has been practical, such benefits as may come from a post-operative course of *x*-ray exposure.

Nor should we forget that there is some truth in what our surgical predecessors observed at the bedside, when they taught that a cancer which had been removed by the knife and in which the removal was followed by suppuration, did not recur as soon as when immediate union of the operation wound was secured. Not that I would be understood as advocating wound infection as a method of after treatment—the futility in carcinoma of infection artificially induced by the bacillus erysipelas warns against this—but a wound surface remaining after thorough excision, allowed to heal by granulation and exposed to the Roentgen rays, gives greater promise of having destroyed in it all the cancer tissue than one in which the wound is hermetically sealed or only slightly drained.

In inoperable uterine cancers with hemorrhage, excessive discharges and foul odors, the methodical application of acetone, first suggested by Dr. George Gellhorn, one of the attending gynecologists of the St. Louis Skin and Cancer Hospital, has been found not only to destroy the bad odors, but also to diminish the discharges and to limit the hemorrhage.

Coley's serum has gained for itself a permanent place in our treatment of inoperable sarcomata more particularly, and is sufficiently well known to workers in this field.

Another method of treating inoperable cancer is that introduced by Keating Hart—the treatment by fulguration. The cancerous tissue is

removed by the sharp spoon, the knife and scissors, and upon the bleeding area a strong spark of electricity is made to play under profound chloroform anæsthesia, upon superficial and upon deep-seated cancers. The metal electrode is fed by a high frequency, high tension electric current so that the spark may reach 6 to 10 c.m. in length. This spark of lightning, which is cooled by passing it through a stream of carbonic acid, destroys the cancer cells, and also the intercellular substance, and produces upon the surface of the cancer, or in it if conducted into the tumor through penetrating needles, an eschar under which rapid granulation formation and early epidermization takes place. The involved glands are enucleated or incised and then fulgurated. One of the systemic effects during fulguration consists in the production of a kind of hypnotic sleep which permits the discontinuation of the chloroform anæsthesia.

In addition, hemorrhage ceases at once. The wound surface is covered with sterile gauze of sufficient thickness to absorb the large quantity of lymph which is poured out as soon as the local reaction takes place. This lymphorrhea continues for many days; at first the fluid is reddish in color, but soon becomes yellow and serous, and gradually diminishes in quantity. Morphologically, it contains polynuclear cells in abundance. In the presence of this abundant serous flow, no plastic closure of the wound should be attempted, but free drainage established and continued to prevent systemic infection.

The liability of explosion precludes the use of ether, as a rule.

The exact value of this method cannot, as yet, be stated. A wider experience alone will decide what place will be assigned to it.

In his relationship to others, the cancer patient must be considered as suffering from an infectious and contagious disease. If this working theory accomplishes nothing else, it will insure that surgical and social cleanliness which will make the sufferer better able to bear his affliction and which will make for the protection of his fellow-man.

There is no specific cure for cancer.

Journal
Missouri State Medical Association.

The Official Organ of the State Association and Affiliated County Societies.
Published Monthly under the supervision of the Publishing Committee.

ADDRESS ALL COMMUNICATIONS TO METROPOLITAN BUILDING, ST. LOUIS, MO.

Volume VI. JULY, 1909. Number 1.

E. J. GOODWIN, M. D., Editor.

PUBLICATION COMMITTEE:

Walter B. Dorsett, M. D., Chairman. M. B. Clopton, M. D. M. C. Shelton, M. D.

EDITORIAL

FIFTY-SECOND ANNUAL MEETING.

In this issue we publish in full the proceedings of the fifty-second annual meeting held in Jefferson City, May 18, 19, 20. Every member should read these proceedings, for in them will be found a detailed account of the work of the Association during the past year.

It should be a source of great encouragement to observe the faithfulness and earnestness with which the members of the committees discharged the duties assigned to them; the very full reports indicating that the profession fully realizes the great field of usefulness before it in preventing and controling diseases, particularly of some which until recently were regarded as fatal maladies, in the amelioration and treatment of which the physician was hitherto helpless and impotent. An important committee was added to the number of standing committees, namely, the committee on cancer. This dreadful malady annually levies a heavy toll upon the nation, and the investigation into its prevalence and treatment in this state is a proper undertaking of our Association, especially in view of the fact that we have in St. Louis an institution established for the specific purpose of studying the cause and endeavoring to discover a remedy for this dreadful malady, namely, the George D. Barnard Free Skin and Cancer Hospital.

Another new committee was created at this meeting, the committee on medical expert testimony. This committee will consult with a similar committee from the Missouri Bar Association for the purpose of

devising some system whereby the professional opinions of physicians will be properly utilized in trials at court.

In many respects the fifty-second annual meeting was the most important session ever held by our Association. So much progress was made that we cannot cite all the advances in this short reference to the meeting, and again urge that the proceedings be read carefully and thoughtfully by every member.

THE ATLANTIC CITY MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

The sixtieth annual session of the American Medical Association, held at Atlantic City, was not as well attended as were the meetings two or three years preceding, but it was, nevertheless, one of the most important and successful meetings the Association has ever held. The growth of the Association in point of numbers during the past ten years has been far beyond the most sanguine expectations. In 1899 the Association had a membership of 7,997, and on May 1st, 1909, the membership numbered 33,935. County and state society membership has increased even more rapidly, the total number of membership in all state associations affiliated with the American Medical Association being 67,332. This large increase numerically, has taken place during the ten years that Dr. Simmons has been secretary of the Association.

The financial affairs of the Association are in better condition than ever before, while the Association's influence in public health and legislative matters has grown to such proportion that it is at once considered whenever any proposition is undertaken which affects the health of the nation.

The election of officers resulted in the choice of Dr. William H. Welch, of Johns Hopkins University, for president; Dr. Robert Wilson, Jr., of South Carolina; Dr. C. J. Kipp, of New Jersey; Dr. Alexander Lambert, of New York; and Dr. Stanley Black, of California, for vice-presidents; and the re-election of Dr. Frank Billings, for treasurer. When nominations for the office of secretary were called for, the name of Dr. George H. Simmons was presented and immediately called forth seconds from delegates representing every section of the country. Dr. Simmons was re-elected with such enthusiasm as to amount to an ovation in his honor. Three new trustees were elected and one to fill the unexpired term of the late Dr. T. J. Happell, of Tennessee. The latter vacancy was filled by the election of Dr. C. E. Cantrell, of Texas. Dr. Dougherty, of Indiana, was elected to fill the vacancy caused by the re-

tirement of Dr. Welch, and Dr. Councilman, of Boston, was elected to fill the place vacated by Dr. Porter. Dr. Harris was re-elected.

The American Medical Association is to be congratulated and the medical profession at large may feel that the best interests of the public and the profession will be carefully safeguarded when men of such reputation and standing accept the responsibility of guiding the affairs of the Association.

Three of the four delegates from Missouri attended the meeting. In accordance with instructions from the St. Louis Medical Society and the officers of the Missouri State Medical Association, the delegates presented an invitation for the American Medical Association to meet in St. Louis in 1910. Appertaining to this subject, we will content ourselves with quoting from the current issue of the *California State Journal of Medicine,* which epitomizes very happily the friendly contest for the choice of the next meeting place: "The delegates from California to the House of Delegates of the American Medical Association," says the California Journal, "did everything in their power to secure the election of Los Angeles for the place of the next annual session; but it was not to be. Under instructions from our own state society, they were active and persistent in their efforts but several things were against them. St. Louis was also out for the meeting and the middle-western contingent worked mighty hard for that city. They argued that it was central and would draw a very large attendance, a desirable thing owing to the comparatively small attendance this year as a result of the very bad weather. And, of course, the majority of Easterners look with horror upon a trip of more than twenty-four hours. So St. Louis was chosen. But the probabilities are that, should California extend an invitation next year, the Association will come to our state. It last met in California in 1894."

Missouri was well represented at the meeting, a total of 66 members being present. In the reapportionment of delegates for the next three years, Missouri gains one delegate, so that in 1910, 1911 and 1912, Missouri will be entitled to 5 delegates instead of 4, the former apportionment.

DR. TINSLEY BROWN.

In the selection of president for the coming year, the Association has chosen one who has been identified with the state medical organization for many years, whose work in his own community has demonstrated his ability in maintaining the active interest of the members, an organizer



TINSLEY BROWN, M. D.,

PRESIDENT MISSOURI STATE MEDICAL ASSOCIATION, 1909–1910.

CAT.

of exceptional abilities, whose charming personality has endeared him to all who know him.

He was born in Ohio, December 23d, 1849, the son of George and Jane Wilkinson Brown. He graduated from the Missouri Medical College in 1874, and immediately thereafter commenced the practice of his profession in Hamilton, where he has resided continuously.

He was a charter member of the Grand River District Medical Society, organized in 1875, and has always taken an active part in county and state medical society work. He has been a member of the State Association since 1880, and was twice elected vice-president. He is an active member of the Missouri Valley and the Tri-State Medical Societies; was a member of the U. S. Pension Examining Surgeons Board for ten years and is local surgeon for the Chicago, Burlington and Quincy Railroad. He was elected mayor of Hamilton and served two years; he also served three years as a member of the board of public schools of Hamilton and was an appointee of both Governors Dockery and Folk on the board of control of the Industrial Home for Girls, which position he filled for eight years.

EDITORIAL NOTE

The Banquet of the Missouri Medical College Alumni was held at the Madison Hotel May 19th, 1909, at which was present a goodly number of the men who were instructed in her halls.

We were entertained by Dr. Miller, of Liberty; Dr. Nicholson, of St. Louis; Dr. Woodson, of St. Joseph; Dr. Brown, of Hamilton; Dr. Tidwell, of DeSoto; Dr. Boulware, of Butler, who very interestingly turned some of the pages of memory upon which were written many of those things dear to the doctor and which are always an inspiration to recall.

Officers for the ensuing year were elected as follows: President, W. S. Allee, Olean; vice-president, W. G. Estill, Lawson; secretary, W. L. Brosius, Gallatin; Committee on Necrology, Dr. J. D. Brummall, Salisbury; Dr. C. M. Nicholson, St. Louis; Dr. E. F. DeVilbiss, Eugene.

A constitution and by-laws were adopted, and it was decided to meet next year and hold our banquet on the second day of the session of the State Association, at 6 P. M.

It is desired that all the graduates of the Missouri Medical College send name and address to the secretary, as we want to arrange for a full attendance next year.

W. L. Brosium, Gallatin, Mo., Secretary.

MINUTES OF THE FIFTY-SECOND ANNUAL MEETING, MISSOURI STATE MEDICAL ASSOCIATION, JEFFERSON CITY, MAY 18, 19, 20, 1909.

Minutes of the House of Delegates.

HOUSE OF REPRESENTATIVES.

FIRST DAY—Tuesday, May 18th.

MORNING SESSION.

The House of Delegates was called to order at 9:50 A. M., President Kieffer in the chair.

It was moved and seconded that the reading of the minutes of the last annual meeting be dispensed with. Carried.

At roll-call the following delegates responded:

COUNTY.	DELEGATE.
Adair	E. C. Callison.
Atchison	J. S. Holliday.
Audrain	R. C. Strode.
Barry	W. W. West.
Barton	G. D. Allee.
Bates	A. E. Lyle.
Benton	A. C. Curl.
Boone	J. E. Thornton.
Buchanan	L. A. Todd.
	C. H. Wallace.
Butler	J. J. Norwine.
Caldwell	G. W. Goins.
Callaway	Herbert Taylor.
Camden	G. M. Moore.
Cape Girardeau	W. K. Statler.
Carter-Shannon	T. W. Cotton.
Cass	B. B. Tout.
Cedar	L. T. Dunaway.
Chariton	G. W. Hawkins.
Christian	F. H. Brown.
Clark	J. R. Bridges.
Clay	C. H. Suddarth.
Clinton	Frank Fulton.
Cole	W. A. Clark.
Daviess	W. L. Brosius.
Dent	W. E. Rudd.
Dunklin	V. H. Bond.
Franklin	A. C. Brown.
Gasconade-Maries-Osage	M. E. Spurgeon.
Gentry	E. R. Lindley.
Grundy	J. A. Asher.
Henry	J. R. Hampton.
Holt	F. E. Bullock.
Howard	V. Q. Bonham.
Jackson	C. Lester Hall.
	H. M. Lyle.
	Gordon A. Beedle.
	Jabez N. Jackson.
	Ernest Robinson.
	N. P. Wood.
	J. D. Griffith.
Jasper	J. D. Pifer.
Jefferson	G. W. Tidwell.
Johnson	S. A. Murray.
Lafayette	W. A. Braecklein.
Lawrence-Stone	J. B. Fleming.
Linn	F. W. Burke.
Livingston	B. N. Stevens.
Macon	W. P. Rowland.
Madison	F. R. Newberry.
Marion	R. H. Goodier.
Mercer	H. P. Chesmore.
Miller	Frank DeVilbiss.
Mississippi	C. C. Pressnell.
Moniteau	H. C. Freudenberger.
Monroe	H. C. Payne.
Montgomery	David Nowlin.
Morgan	J. L. Short.
Nodaway	F. R. Anthony.
Pettis	H. B. Cole.
Phelps	W. H. Breuer.
Platte	A. S. Herndon.
Putman	J. A. Townsend.
Ralls	T. J. Downing.
Ray	W. G. Estill.
St. Charles	F. J. Tainter.
Ste. Genevieve	J. A. Wilkins.
St. Louis	N. N. Jensen.
St. Louis City	R. M. Funkhouser.
	Joseph Grindon.
	F. J. Lutz.
	J. H. Amerland.
	W. W. Graves.
	T. A. Hopkins.
	H. L. Nietert.
	M. F. Engman.
	B. M. Hypes.
	C. M. Nicholson.
	E. J. Goodwin.
	F. M. Rumbold.
	Louis Rassieur.
	P. Y. Tupper.
	H. E. Gerwig.
Schuyler	W. F. Mitchell.
Scotland	E. E. Parrish.
Scott	W. S. Hutton.
Shelby	A. M. Wood.
Stoddard	John Ashley.
Taney	C. W. Burdett.
Vernon	J. F. Robinson.
Webster	W. R. Beatie.

The President read his message as follows:

To the Members of the House of Delegates of the Missouri State Medical Association:

Legislative authority being invested in the House of Delegates and the authority to settle all judicial propositions in the Judicial Council, my suggestions to you will be very brief.

I would recommend such action by a revision committee as would simplify our constitution and by-laws in construction and amend them so that a Committee on Tuberculosis will have a solid foundation and the name of Committee on Medical Education changed to the Council on Medical Education and given greater duties and responsibilities, bearing in mind the desirability of conforming as nearly as possible to the constitutions and by-laws of other states.

I desire especially to call your attention to Chapter IX., Sections 1 and 2, of our by-laws. The construction which our secretary puts upon these sections places us all in the class of delinquents.

The confliction between the by-laws of the Madison County Medical Society and the letter and spirit of our State constitution and by-laws should be settled, if possible, in a spirit of mutual professional regard. No component society can have a constitution and by-laws in conflict with our State constitution.

Medical defense should receive careful attention at your hands. The present tendency of the laity to sue members of our profession for alleged malpractice makes this a very important matter.

The chief object of our State organization now should be more and better work. Until now, and properly, too, our aim has been for organization of component societies. District societies should be organized covering the whole state, with places of meeting convenient to the greatest number. Meetings should be held at least quarterly. The post-graduate idea should obtain in programs as far as possible. Work of mutual benefit to the members and to better equip them for practicing the art of medicine is the goal of all efforts at organization.

The Council on Medical Education could act in an advisory capacity in the matter of arranging programs in district societies in a systematic manner, greatly to the advantage of those who desire to keep abreast of the times.

Programs could be so arranged by them that they would amount to a review of the whole subject matter of medicine during stated periods. They should also have supervision over all matters pertaining to medical education coming within the purview of the state body. They should be for Missouri what the Council on Medical Education of the American Medical Association is for the whole country.

On motion the message was referred to the Judicial Council.

The report of the Committee on Arrangements was read by Dr. Bedford. On motion the report was received.

The report of the Committee on Medical Education was read by Dr. B. M. Hypes, chairman. (See page 80.)

Discussion: Dr. F. J. Lutz, St. Louis, said this was the most able and systematic report on medical education ever presented to the Association. His only criticism of the report was that it dealt with the dark side of medical education in this state. It might have been a valuable addition to the report if it had brought out the real findings of the State board examination of the medical schools of the State. Medical education,

he said, is a matter of slow development in all governments and must be commensurate with environment. It was impossible in America to follow the curricula of older governments, and it was impossible as yet in Missouri to establish requirements similar to those in some of the older states. Medical education was largely a matter of local character. While the action of the State board did not meet with the enthusiastic endorsement that might have been desired, as a matter of fact the medical schools complied, to the best of their ability as they saw it, with the demands of higher medical education and with the requirements laid down by the State Board of Health. While it was true some of the defects pointed out were glaring defects, and it was also true that some of the institutions might have thought they were being interfered with, in the end the colleges complied to the best of their ability with the demands made upon them. He freely acknowledged that the criticisms in the report were warranted, but he thought the good side also should be given attention.

As to the practice of midwifery, there were so many abuses that should be corrected, and such radically opposite views on the subject, that it was necessary to enact laws to suit the conditions in the State. Since there were midwives, and a demand for them, the people should be safe-guarded to the fullest extent in regard to the competency and qualifications of the midwives.

Dr. Lutz then moved to refer that part of the report relating to midwives to the Committee on Public Policy and Legislation. Seconded and carried.

Dr. Hypes offered the following resolution:

RESOLVED, That the Missouri State Medical Association, through its House of Delegates, adopt the general scheme of medical education as adopted by the American Medical Association in 1904, and outlined in the 1909 report of the Council on Education;

RESOLVED, Further, that this general outline of medical education be recommended to all medical colleges of the State.

Dr. Grindon, St. Louis, moved that the resolution be adopted.

Dr. W. T. Elam, St. Joseph: There is no occasion for the Association to go on record as having adopted this recommendation. Missouri has as good physicians as are to be found anywhere. So far as the teaching of physics, biology and chemistry was concerned, I am heartily in accord with the idea, but in adopting this resolution the Association would go on record for the adoption of something entirely out of its sphere when it endorsed the recommendation that students be able to read some foreign language. If Europeans were stumbling over themselves to adopt American methods I would be in accord with them, but I do not believe it is necessary to speak a foreign language in order to be able to practice medicine intelligibly. If there were added the sixth year as interne in some hospital, it would be necessary to increase the hospitals most wonderfully. The number of hospitals would have to be out of all proportion to the needs of the people.

Dr. Joseph Grindon, St. Louis: Dr. Elam has misunderstood the scope of the recommendation. There are three groups of requirements, and the first of these is the minimum. Surely no man would want Missouri to fall below the minimum requirements. Second, there were recommended certain things as desirable and, finally, there were certain things that were ideal. The adoption of these recommendations as ideal meant nothing more than to say that these things were believed by the Association to be ideal, although they might not find concrete expression

this year, or for many years to come. The idea was to make our institutions just as good as possible, whether or not Europeans came here for ideas. Whether they learned from Germany or from Japan, nothing was too good for American students. In certain branches, *e. g.*, engineering, Europeans did come to this country to study. One of the tools of the trade was a reading knowledge of those languages in which medical knowledge found expression to-day, and English was not the only one of these. For this reason the Association was justified in saying that certain things were required and certain other things were ideal.

Dr. Wallace, St. Joseph: The State is prepared to teach chemistry, physics and biology in the high schools. The high schools also teach German and French and the State University is prepared to give students anything they might want. For this reason the time had come for such resolutions to be adopted, unless the profession was willing to stay where it was at present.

The resolution was adopted unanimously.

Dr. Hypes moved an amendment to Chapter VIII., of the by-laws, as follows:

"Council on Medical Education. This Council shall consist of three members; one member shall be elected to serve for one year, one for two years and one for three years. Thereafter one shall be elected each year to serve for three years."

Dr. Jackson asked by whom they should be elected.

Dr. Hypes replied that the members should be appointed by the President, and suggested that the word "appointed" should be substituted for "elected."

Dr. McAlester moved that the report be referred to the Committee on Amendments to the Constitution and By-Laws.

Dr. Grindon suggested the addition of the words, "with instructions to report tomorrow."

Dr. McAlester accepted Dr. Grindon's amendment. Seconded and carried.

Dr. Hypes moved the adoption of the following resolution:

"Resolved; That the plan of annual, personal inspection of the medical colleges of the State of Missouri, by both our State Board of Health and by the Council on Medical Education of the American Medical Association, be endorsed and recommended." Seconded.

Dr. Jackson asked what good this would do, inasmuch as there was already inspection of the medical colleges by the State Board of Health.

Dr. Grindon said there were sometimes two duties that devolved upon them: one was the duty to blame when blame was deserved, and the other was the duty to praise; and it was the duty of the profession to uphold the hands of the men who were doing the work when the work was a good one. They should say that as members of the Missouri State Medical Association they upheld the work of the State Board of Health in this particular.

Dr. Jackson said that he would not vote against this resolution because he believed in the inspection of medical schools, but he did not endorse all inspections carried on in the way they were sometimes carried on.

The resolution was adopted.

On motion a vote of thanks was extended to the Committee on Medical Education for their excellent report.

Dr. Grindon moved that action on the report of the committee as a whole be deferred until action had been taken upon the proposed amendment to the by-laws. Seconded and carried.

The report of the Committee on Scientific Work was read by Dr. Paul Y. Tupper, chairman. (See page 70.) On motion the report was received and adopted.

The report of the Committee on Public Policy and Legislation was presented by Dr. Pearse, chairman. (See page 77.) On motion the report was adopted.

Dr. Pearse offered the following resolution thanking the gentlemen who had been instrumental in securing needed legislation during the past winter:

WHEREAS, Certain gentlemen have rendered valuable service to this Association, without compensation, in the course of the past winter, toward securing needed legislation, therefore be it

Resolved, That the thanks of this Association be and hereby are tendered to Mr. Frank Walsh and Mr. E. L. Morrison, of Kansas City; Mr. Irvin V. Barth and Morton Jourdan, of St. Louis, and Mr. Edward Silver, of Jefferson City, for assistance in compiling bills and amendments; to Dr. H. Wheeler Bond, of St. Louis, for assistance in passing the vital statistics and permanent secretary bills; to Dr. Cressy L. Wilbur, of the Bureau of Vital Statistics, Washington, D. C., who came from Washington and addressed the House and Senate in behalf of public health bills, and to Attorneys P. T. Cross, of Lathrop, Clinton County, and Judge Johnson, of Nevada, Vernon County, who wrote the *certiorari* amendment (Bill 334) and secured its passage in the House.

Resolved, Further, that a copy of these resolutions be mailed to each of these gentlemen and to each member of the Missouri State Medical Association, to the end that the members may know of the services rendered.

H. E. PEARSE, *Chairman*.

Dr. Hypes thought that the name of Mr. Hagenow, of St. Louis, who had worked earnestly to defeat the "optometry" bill, should be added to the list.

Dr. Pearse wished that other names would be added to the list, as he knew that there were others who also should receive the thanks of the Association. Senator Allee had asked Dr. Pearse to see to it that the Association be informed of the names of its friends.

Dr. Goodwin thought it very important that the names of all the men who had been of service to the Association, in this connection, be added to the list, and he moved that the committee be requested to bring in a supplementary report, including the names of all gentlemen who had assisted the committee.

Dr. Lutz, in seconding the motion, said that the efficacy of the Association's work was through the county societies. The county societies could elect or defeat any man who came up for election, and every county society should be informed how its representatives had voted. That was the only way to instil the fear of the Lord in some of these representatives. That was best shown in Jackson County, in the retirement of a legislator who had seen fit to antagonize everything that the medical profession wanted. Any ten lawyers could defeat any kind of bill that took business away from them, no matter how it affected others. The time had come for the Association to tell the county societies how their representatives ought to vote. The legislator should understand that his views on the tariff would not save him from defeat if he opposed the things that the physicians wanted.

The resolution carried unanimously.

Moved by Dr. Elam that the Association extend its thanks to the Committee on Public Policy and Legislation for the comprehensive report submitted, and that the Chairman, Dr. Pearse, also receive the thanks of the Association for his work. Seconded and carried.

The report of the Publication Committee was presented by the Chairman, Dr. W. B. Dorsett, St. Louis. (See page 71.)

On motion the report was received and referred to the Judicial Council.

The report of the Defense Committee was read by Dr. F. J. Lutz. (See page 71.)

On motion the report was received and adopted.

The report of the State Secretaries' Association was read by Dr. Burke. (See page 72.)

Moved that the report be received and referred to the Judicial Council. Seconded and carried.

The Treasurer's report was read by Dr. Welch. (See page 91.)

On motion the report was received and referred to the Judicial Council.

On motion the House adjourned to meet at 2 o'clock.

FIRST DAY—Tuesday, May 18th.

AFTERNOON SESSION.

The House of Delegates were called to order at 2:30 P. M., President Kieffer in the chair.

The Committee on Ophthalmia Neonatorum presented the following report, by Dr. Leonard, chairman:

After a full discussion with our representatives in the state legislature regarding the enactment of a special law for the prevention of ophthalmia neonatorum, it became evident that this was impractical.

But it became clear that we must use our influence for the passage of the vital statistics bill, the creation of a permanent home for the secretary of our State Board of Health, etc., and since these bills have passed, we are now in a position to do some effective work in the prevention of this dreadful disease, which is responsible for almost half of the inmates of all the institutions of the blind throughout the world, and the medical profession knows this disease to be absolutely preventable.

Our committee coöperates with the committee of the American Medical Association.

P. I. Leonard, Chairman.

Dr. Lutz called attention to the fact that there were laws on the statute books which had evidently been overlooked in the preparation of the report, and moved that the report be referred back to the committee for investigation of the Missouri statutes. Seconded and carried.

The report of the Secretary was read by Dr. McAlester. (See page 74.)

On motion the report was received and referred to the Judicial Council with instructions to report to the House.

Election of Delegates to the American Medical Association being the next order of business, Dr. Lutz nominated Dr. W. B. Dorsett, St. Louis. The nomination was seconded by Dr. Dallas, Hunnewell.

Dr. Welch nominated Dr. E. J. Goodwin, St. Louis. The nomination was seconded and it was moved that the by-laws be suspended and the

Secretary be instructed to cast the ballot for Dr. Dorsett and Dr. Goodwin. Seconded by Dr. Grindon. Carried.

Dr. Robert Schauffler, Kansas City, was nominated as alternate for Dr. Dorsett.

Moved and seconded that the by-laws be suspended and the Secretary instructed to cast the ballot for Dr. Schauffler. Carried.

Dr. Brosius, Gallatin, was nominated as alternate for Dr. Goodwin. On motion the by-laws were suspended and the Secretary instructed to cast the ballot for Dr. Brosius.

Dr. Newberry presented the following amendment to the by-laws:

Amend chapter 12 of the by-laws by adding a new section to be known as section 14, as follows:

"Section 14. The Judicial Council shall elect a committee of three members of this Association to revise and amend the by-laws of component county societies, when they conflict with the constitution and by-laws of the State Association; one member of such committee to be elected for three years, one for two years and one for one year, and thereafter annually one for three years."

Dr. Lutz offered an amendment to create a Committee on Cancer, as follows:

Amend chapter 8 of the by-laws as follows: "A standing committee on cancer, which committee shall make an annual report on the prevalence, nature and advance in the treatment of cancer in this State."

Dr. Nicholson offered an amendment providing for legal defense, and a resolution as follows:

Let there be a new section to Chapter VIII. of the By-Laws of the Missouri State Medical Association, to be known as Section 6, which may read as follows:

The Defense Committee shall consist of three members, who shall, upon request and in compliance with the conditions hereinafter named, aid in the defense of suits for alleged malpractice instituted or threatened against any member of the Association. Conditions:

(a) Any member desiring to avail himself of the provisions of this section shall, so soon as possible, after any demand has been made upon him, present to the committee his request for aid in the defense together with a full and complete history of the case and the services therein rendered. The committee shall then, with the aid of its counsel, advise said member up to the time of the institution of suit without any expense to the member so charged. Should the member desire the committee's services subsequent to the institution of suit, he shall authorize the committee to further aid in the defense of said suit. The committee shall thereupon without expense to the member provide for all medical expert services necessary for the trial and the necessary legal services of its counsel; Provided, that the committee shall not obligate itself or the Association for the payment of any damages awarded in the trial or upon compromise.

(b) Such medico-legal aid or defense as is herein specified refers only to civil malpractice and is not to be construed to apply to criminal prosecutions.

(c) The committee with the approval of the House of Delegates shall have authority to employ counsel for the term of one year to advise as aforesaid, and to represent any member of the Association in suits for alleged malpractice upon the terms hereinabove provided. The compensation of the attorney shall be determined by the Committee with the approval of the House of Delegates.

Dr. Elam moved that the resolution be referred to the Judicial Council.

Dr. Grindon thought, since no amount was specified in the amendment, but was named in the resolution, that both resolution and amendment need not be referred to the Council.

Dr. Lutz called attention to the fact that an amendment to the by-laws had been presented to the House a year ago, by Dr. Fulton, and this amendment, therefore, had been before them for a year and had had its second reading. There was no reason why it should not be acted upon at once.

Dr. Nicholson said that the by-laws could be amended at any session by a majority vote of those present, after an amendment had been on the table one day.

Dr. Elam said that the amendment did not carry an appropriation; it was only a resolution and could be acted upon without delay.

Dr. Grindon thought that the fact that the resolution and amendment had been presented at one time had been a little confusing. He suggested that Dr. Nicholson withdraw the resolution temporarily so that the House might act upon the amendment, and that the resolution then be taken up.

Dr. Nicholson withdrew his resolution.

Dr. Lutz said that it was impractical to employ an attorney for one year, when suits might be pending requiring the knowledge of a man familiar with the case. Again, if the committee had no authority to employ an attorney, except with the approval of the House of Delegates, then the committee might be without legal advice until a meeting of the House. For this reason he moved that the wording of the third section be changed to read as follows:

(c) The committee shall have authority to employ counsel to represent any member of the Association in suits for alleged malpractice upon the terms hereinabove provided. The compensation of the attorney shall be determined by the committee. Carried.

On motion the section as amended was adopted.

The resolution presented by Dr. Nicholson was taken up and on motion referred to the Judicial Council.

Dr. Funkhouser moved that the unused $500 appropriated last year for legal defense, be set apart as a part of a permanent fund for legal defense.

Dr. Grindon said that was a part of the resolution just adopted.

Dr. Lutz said that the committee was created for one year and that the appropriation was for one year. Clearly, at the expiration of the year the committee died, and so did the appropriation, unless it were worded in some other way. It would require a separate resolution to keep the money appropriated last year out of the general fund.

The motion was amended and ordered referred to the Judicial Council with instructions to report to the House of Delegates at its next session.

Dr. Nicholson presented the following resolution on medical expert testimony:

WHEREAS, It is, and has been for many years, a matter of common knowledge among medical men that the general plan of expert medical evidence in vogue in the courts in this country is crude in character, unscientific in conception, illogical in scope, and frequently tends rather to the hindrance than the furtherance of the ends of justice, and

WHEREAS, the medical profession should be, and is, vitally concerned in the righting of this unfortunate condition, and therefore, be it

RESOLVED, That the president designate a committee of three to investigate, as hereinafter detailed, the problem of expert medical evidence; and be it further

RESOLVED, That the Secretary be authorized to forward a copy of these resolutions, and the personnel of the committee to the Missouri Bar Association, with the request that a like committee be designated by that body, with the end in view that a plan may be devised warranting alike the hearty endorsement of both the medical and legal professions; with the further hope that through the coöperation of allied associations, in particular the Missouri State Medical Association and the Missouri State Bar Association, the fully digested conjoint plan may be so favorably and so forcibly presented before the State legislature that a radical change in the manner, method and general scheme of the development and utilization of expert medical evidence in the courts of the State of Missouri shall be secured by appropriate legislative enactment; and be it further

RESOLVED, That the chairman shall in person go before the Bar Association and urge the appointment of the committee.

On motion the resolution was adopted.

The President appointed the Nominating Committee as follows:

Dr. T. A. Hopkins, St. Louis; Dr. Franklin E. Murphy, Kansas City; Dr. David Nowlin, Montgomery City; Dr. C. C. Presnell, Mississippi county; Dr. H. B. Cole, Sedalia; Dr. J. R. Buchanan, Nevada; Dr. W. T. Elam, St. Joseph; Dr. J. P. Burke, Laclede; Dr. W. A. Clark, Jefferson county; Dr. R. H. Goodier, Hannibal.

On motion the House adjourned to meet Wednesday morning at 8:30 o'clock.

SECOND DAY—Wednesday, May 19th.

MORNING SESSION.

The House was called to order at 8:45 A. M., Dr. Kieffer in the chair.

Dr. Lutz presented the following report from the Judicial Council:

The Judicial Council desires to submit the following report:

The report of the Treasurer as referred to the Council from the House of Delegates, was carefully examined by an auditing committee and found correct, and therefore has been approved.

The Council recommend that the suggestions of the State Secretary relative to the adoption of an official badge in the form of a gold and enamel button, be approved; that the State Secretary be made the official custodian of all political papers of the Association.

The report of the Committee on Publication recommended the expenditure of a sum of money sufficient to defray the expense of printing enough copies of the portrait of each new president, elected in future, to supply a copy to each member and require the State Secretary to preserve a collection of these portraits. The Council considered this recommendation in all its bearings and returns an adverse report.

The recommendation of the Defense Committee that $1,000.00 be set aside for use in defending members in civil suits for malpractice is approved, and the House of Delegates is requested to set aside that sum out of the general funds of the Association to be used for the purposes specified. The Council, however, does not deem it wise to put a further drain upon the treasury by approving the recommendation of the defense Committee to return to that committee the original $500.00 appropriated for its use, and returned by the committee to the general fund, and therefore recommends that this $500.00 be retained in the general fund.

The duties of the Treasurer of the Association are of such a responsible nature and have become within the past several years so exacting and complicated that their proper fulfillment cannot any longer be performed accurately and satisfactorily, both to himself and to the Association, without some clerical assistance. It has come to the knowledge of your Council that our Treasurer has been compelled to call in such clerical aid, but has failed to receive reimbursement for money so expended. We recommend, therefore, that the sum of $200.00 be appropriated to the Treasurer for his use in providing for assistance in the proper care of the fiscal accounts of the Association.

For Secretary of the Association the Council has re-elected Dr. A. W. McAlester, Jr.; for Treasurer, Dr. Welch, re-elected. For chairman of the Judicial Council, Dr. Lutz, and for secretary of the Council, Dr. Goodwin. For editor of the Journal, Dr. Goodwin was elected to serve for another year.

The Publishing Committee, as constituted during the past year, was reappointed.

Respectfully submitted,

F. J. Lutz, Chairman.

On motion the report was adopted.

The report of the Committee on Tuberculosis was read and on motion received and ordered printed in the Journal. (See page 85.)

The Committee on Amendments to the Constitution and By-Laws reported as follows:

Amend Chapter VIII., Section 1, by adding thereto: "A Council on Medical Education."

Amend Chapter VIII., by adding a new section as follows: "The Council on Medical Education shall consist of three members, appointed by the President. One member shall be appointed to serve one year, one for two years and one for three years. Thereafter each year one member shall be appointed to serve three years. The Committee on Medical Education shall, (1) make an annual report to the House of Delegates on the existing conditions of medical education in the State and in the United States; (2) make suggestions as to the means and methods by which the State Medical Association may best influence favorably medical education, and (3) act as the agent of the State Medical Association, under instructions of the House of Delegates, in its efforts to elevate the standard of medical education."

We, the special committee, appointed to revise the constitution and by-laws of the Missouri State Medical Association, respectfully recommend the adoption of the above amendments.

Walter B. Dorsett,
Jabez N. Jackson,
F. B. Hiller,
The Committee.

Moved, seconded and carried that the amendment as a whole be adopted.

Moved, by Dr. Grindon, that the President appoint a committee of three to revise the constitution and by-laws, to submit the results of their deliberations at the next meeting. Seconded.

Dr. Lutz offered as an amendment that the committee be instructed to publish the proposed changes in the Journal issued two months before the meeting of next year.

The motion, as amended, was adopted. The President announced that the committee would be named later.

Moved by Dr. McAlester that the committees be ordered to file their reports with the Secretary at least four weeks before the annual meeting so that they could be printed in the May issue of the JOURNAL. Seconded and carried.

On motion the House adjourned to meet Thursday morning at 8:30 o'clock.

THIRD DAY—Thursday, May 20th.

MORNING SESSION.

The House was called to order at 8:45 A. M., Dr. Kieffer in the chair.

The amendment offered by Dr. Lutz for the appointment of a committee on cancer was read the second time, and on motion the amendment was adopted.

Dr. Elam offered the following amendment to Chapter VIII., Section 3, of the by-laws:

Amend Chapter 8, Section 3 of the by-laws by inserting after the word "secretary" in line two the following: "The members of this committee shall serve for a period of three years each; except that upon the adoption of this amendment one member shall be elected to serve for one year, one to serve two years and one to serve for three years, and thereafter one member shall be elected each year."

To lie over till next year.

The Nominating Committee made the following report:

We, the Nominating Committee, appointed at this session of the Missouri State Medical Association, would respectfully offer the following report: We find the duties of this committee are to make nominations for the following offices: First, second, third, fourth and fifth vice-presidents; members of the committee on public policy and legislation, and councilors for the 15th, 22d, 26th, 27th, 28th and 29th districts.

For the office of first vice-president, we submit the name of J. M. Bell, St. Joseph; second vice-president, J. A. Harris, Mount Vernon; third vice-president, H. G. Schobe, Paris; fourth vice-president, B. W. Hays, Jackson; fifth vice-president, J. L. Thorpe, Jefferson City.

For the members of the committee on public policy and legislation we submit the names of R. M. Funkhouser, St. Louis; M. P. Overholser, Harrisonville; C. R. Dudley, Hannibal.

For councilor in the 15th district we submit the name of J. A. Anderson, Warrensburg; 22d district, W. S. Hutton, Fornfeld, Scott county; 26th district, W. H. Breuer, St. James. No one being in attendance from the 27th district, we recommend that the present incumbent, H. C. Shuttee, of West Plains, be continued in the office for one year. For councilor in the 28th district we submit the name of A. H. Madry, Aurora; 29th district, R. L. Neff, Joplin.

T. A. HOPKINS,
F. E. MURPHY,
DAVID NOWLIN,
H. B. COLE,
C. C. PRESNELL,
J. R. BUCHANAN,
W. T. ELAM,
J. P. BURKE,
W. A. CLARK,
R. H. GOODIER,
The Committee.

On motion the report of the Nominating Committee was received and adopted.

On motion the Defense Committee, as at present constituted, was continued for one year longer.

On motion the House adjourned.

ADJOURNED SESSION.

The House of Delegates was called to order at 10:35, the President in the chair, to select the place of next meeting.

Dr. Goodier extended an invitation to meet in Hannibal in 1910.

Dr. Bell, on behalf of St. Joseph, invited the Association to meet in St. Joseph.

Dr. Boulware nominated Joplin and Dr. Campbell nominated Sedalia.

Hannibal and St. Joseph were first voted upon, Hannibal receiving 30 votes, St. Joseph 29, and on motion the vote for Hannibal was made unanimous.

On motion the House adjourned *sine die*.

MINUTES OF THE JUDICIAL COUNCIL.

The Judicial Council was called to order in the judiciary committee room of the Senate Chamber May 18th, 1909. The roll-call was answered by the following councilors: C. L. Evans, 1st District; W. T. Elam, 2d District; L. W. Dallas, 7th District; W. B. Dorsett, 8th District; A. R. McComas, 9th District; J. D. Brummall, 11th District; E. H. Miller, 12th District; F. E. Murphy, 13th District; C. T. Ryland, 14th District; M. P. Overholser, 15th District; J. R. Buchanan, 16th District; R. D. Haire, 17th District; Frank DeVilbiss, 18th District; G. Ettmueller, 19th District; F. J. Lutz, 20th District; F. R. Newberry, 22d District; T. W. Cotton, 24th District; Frank Harrison, 25th District; W. H. Breuer, substitute, 26th District; A. R. Snyder, 29th District.

The treasurer's report, referred to the Council by the House of Delegates, was referred to an auditing committee, composed of Drs. Dallas, Murphy and Snyder.

The chairman stated that the Madison County Medical Society had appealed to the Judicial Council from the decision of the councilor of the district, who held that a certain by-law adopted by the Madison County Medical Society was in conflict with the constitution and by-laws of the State Association, and therefore inoperative. The chairman suggested that a sub-committee of the council be appointed to consider the appeal and report to the Council. He also stated that he had ruled that the appeal of the Madison County Medical Society from the decision of the councilor of the district acted as a supersedeas. Dr. Elam moved that the chair appoint a committee of three to hear this case and report to the Council. The motion was duly seconded and carried. The Chair appointed Drs. E. H. Miller, C. T. Ryland and W. H. Breuer. .

The Chair announced that Dr. W. C. Dieckman, of Dexter, Stoddard County, had appealed to the Council from the action of the Stoddard County Medical Society in expelling Dr. Dieckman from membership in Stoddard County Medical Society on the charge of unprofessional conduct. Dr. John Ashley, secretary of the Stoddard County Medical Society, submitted a transcript of the case and Dr. Dieckman filed his appeal through the secretary of the Judicial Council. At this point the secretary of the Council read a telegram received by him this morning, as follows: "Am sick. Cannot come. Postpone appeal." Signed, W. C. Dieckman. Upon this information being conveyed to the Council, further action was postponed indefinitely.

Dr. E. H. Miller, of Liberty, councilor for the 12th District, reported upon the case of Dr. J. J. Carter, of Weston, Platte County, who had been a member of St. Joseph-Buchanan County Medical Society and received a transfer certificate showing that he was in good standing when he made application for affiliation by transfer with the Platte County Medical Society. A member of the Platte County Medical Society claimed that Dr. Carter's actions had been irregular, and that he was not a person who should be admitted to membership. The matter was referred to the censors and an adverse report brought in; consequently, Dr. Carter was not elected a member of Platte County Medical Society. He appealed to the Council and this appeal was forwarded to Dr. Miller. Dr. Miller said he had made a careful investigation of the controversy and found that in the discussion many things had been said by members of Platte County Medical Society, as well as by Dr. Carter,

which should not have been said, but that both parties were inclined to settle the dispute if a reasonable solution of the question could be arrived at. He applied himself to this task and obtained the consent of the Platte County Medical Society to admit Dr. Carter to membership if the latter would promise to sign the constitution and by-laws of the Society and live up to them in future. Dr. Carter declared himself entirely willing to do this and to have the Society hold him responsible for his conduct in future. Dr. Miller said that he had recommended to the Society to admit Dr. Carter to membership under these conditions and asked the Council to endorse his action.

Dr. Snyder moved that since Dr. Miller had brought the matter to such a happy termination, the Council endorse the action of Dr. Miller and thank him for the politic and judicial manner in which he had adjudicated the case. The motion was duly seconded and carried.

Dr. McComas, councilor for the 9th District, stated that Warren County has only two railroads running through it, one in the northern portion and one in the southern portion of the county. The doctors cannot get together at any central point to hold meetings. Last fall an effort had been made to arrange for the physicians of Warren County to unite with St. Charles County, but no definite plans had been consummated. He recommended that the physicians in Warren County be allowed to affiliate with the societies in adjoining counties.

Dr. Dorsett, councilor for the 8th District, in which St. Charles County is located, said that he had discussed with the members of the St. Charles County Medical Society the question of permitting Warren County physicians to affiliate through St. Charles County, and as a result of this conference, he sent circular letters to the physicians in Warren County inviting them to affiliate with St. Charles County Medical Society, and had received a number of replies from physicians who were favorable to this plan. He suggested that Warren County be put in the 8th District.

The Chair decided that the question is one which should be adjusted by the members in the two counties and the councilors, and suggested that the councilors and the members have a conference and endeavor to arrive at a satisfactory understanding and report to the next annual meeting of the Council. The Council then would be in a position to take some definite action.

Dr. W. T. Elam, councilor of the 2d District, read the following letter from the secretary of Andrew County Medical Society: "Dr. A. W. McAlester, Secretary Missouri State Medical Association. Dear Doctor: The Andrew County Medical Society has ceased to meet and what members there are left desire to affiliate with the Buchanan County Medical Society. I am authorized to ask you to bring the matter before the State meeting at Jefferson City. Trusting that they will grant the permission desired, and thanking you in advance for the favor, I am, fraternally yours, W. W. Best, Secretary Andrew County Medical Society." Dr. Elam stated that Andrew County had twelve paid-up members, as compared with fifteen last year. He asked the Council to take action in the matter.

The Chair stated that under the circumstances, wherever a county society cannot exist as a separate organization, it is provided that it may become hyphenated with an adjoining county in which there is an organized society, with the agreement of the two counties and the councilor. If Andrew County and Buchanan County can reach an agreement and the councilor of the district will endorse the action, the

matter should then be referred to the Council; the arrangement, of course, will receive the approval of the Council.

On motion the matter was referred back to the councilor, Dr. Elam, for adjustment and report next year.

Dr. Elam moved to endorse the appropriation of $1,000, as requested in a resolution adopted by the House of Delegates, for the use of the defense committee in defending members against civil suits for alleged malpractice. The motion was seconded.

Upon request for information as to the amount of funds in the treasury, the treasurer, Dr. Welch, stated that the amount on hand was $7,217.94.

Dr. DeVilbiss asked if the amount of $1,000 could be spared from the general fund of the Society. The treasurer stated that $1,000 would be sufficient, he thought, to put in the fund at the present time, and assured the Council that the general fund could safely lay aside $1,000 for the purposes of medical defense.

Dr. Murphy thought the appropriation of $1,000 for this purpose would be a good investment, as he believed it would induce a large number of desirable practitioners to apply for membership, and bring back many delinquents. He stated that in his county they now had little trouble with delinquents, as the members are beginning to appreciate the full value of the defense feature, and they realize that membership in the Society gives them more real and tangible benefits.

Dr. Evans said the appropriation of this $1,000 would put $1,500 in the fund, on account of the $500 left over from last year. He thought the $1,500 would be too much to take out of the treasury at the present time.

The Chair stated that it could not be foretold what the new Defense Committee would have to do, and no one could tell how many cases now pending might need financial assistance from the Association. The $500 appropriated last year had been turned into the treasury by the committee, as the committee had attended to the cases brought before it without using any portion of the $500 appropriated. He stated that in New York the attorney received a salary of some three or four thousand dollars a year, but advises all members to retain their insurance affiliations, and he stated we will have to do that in this State for some time. Just as soon as we make it known among the members at large that we will defend them in all respects, they will drop their insurance protection and demand from the Association full defense. For this reason the chairman had made a recommendation in his report to the House of Delegates that defense be made with restrictions. $1,000, he stated, will not go very far.

Dr. McAlester said he thought it would be a wise provision if the members could be induced to pay an annual fee of five dollars. With dues of five dollars a member, he said we would soon have a fund of $50,000, which would enable us to give the members full defense and extend benefits in several other directions.

The vote upon the motion of Dr. Elam, namely, that $1,000 be set aside for the purposes of the defense committee, was taken and carried unanimously.

A second resolution, referred by the House to the Council, asking that the appropriation of the $500, returned to the treasury by the defense committee, be reserved for the use of that committee, was taken up. Dr. Elam moved, for the purpose, he stated, of disposing of this resolution, that the Council recommend the reservation of this $500 for

the use of the Defense Committee. Motion was seconded, but lost on vote.

The report of the Committee on Publication was taken up. This report contained a recommendation that the pictures of the presidents be reproduced in the July issue of the JOURNAL each year. Motion was seconded and lost.

Dr. Overholser moved that the Council proceed with the election of officers, which was duly seconded and carried.

Dr. Elam moved that the present chairman be renominated for the position. This was seconded and on motion of Dr. Snyder, Dr. Lutz was unanimously re-elected chairman.

Dr. Overholser moved that Dr. Welch be re-elected treasurer, which was seconded and carried unanimously.

Dr. Overholser moved that the treasurer be allowed $200 a year for clerical assistance. Seconded and carried.

Dr. Elam moved that Dr. Goodwin be re-elected editor of the JOURNAL, and secretary of the Judicial Council. Seconded and carried.

On motion the state secretary was authorized to furnish the stationery for the committees, councilors and others who may need such convenience. Carried.

The recommendation of the state secretary that the secretary of the State Association be made the secretary of the Committee on Public Policy and Legislation, and that the records be kept in the office of the secretary, was taken up.

Dr. Dorsett moved the adoption of this recommendation. Motion was seconded and carried.

On motion the Publication Committee was reappointed for the ensuing year.

On motion adjourned until 2 P. M., Wednesday.

WEDNESDAY, MAY 19, 1909.

The adjourned meeting was called to order at 2:30 P. M. Dr. Lutz in the chair.

The committee appointed to hear the appeal of Madison County Medical Society, reported as follows:

"We, your committee, to whom was referred the appeal of the Madison County Medical Society from the decision of the committee on by-laws for County Societies, find as follows:

"After hearing all the evidence pro and con in said case, and after due consideration of all the facts presented, in view of the local conditions existing in Madison County, we believe that said Madison County Medical Society had a perfect right under the constitution and by-laws of the American Medical Association and of the Missouri State Medical Association to pass said amendment to their by-laws, and that the same is in perfect accord with the constitution and by-laws of the Missouri State Medical Association.

Respectfully submitted,

(Signed) E. H. MILLER,
C. T. RYLAND,
W. H. BREUER,
The Committee."

Dr. Buchanan moved that the report of the committee be received. Seconded and carried.

Dr. Ryland moved the adoption of the report. This motion was seconded, and after a general discussion the report was adopted.

The report of the Auditing Committee was read as follows:

"We, the Auditing Committee, appointed to audit the accounts of our treasurer, would report that we have carefully checked the receipted bills, the bank checks and the entries in the books, and find the accounts correct.

FRANKLIN E. MURPHY,
L. W. DALLAS,
A. R. SNYDER."

On motion the report was adopted.

Dr. Welch asked if he was to recognize only bills O.K'd. by the Secretary of the Association and the Chairman of the Judicial Council for money expended by the defense committee.

The chair stated that was the correct understanding and that the funds were to be maintained on the books of the treasurer in a separate account from all other funds.

Dr. Dorsett said he had been asked a very important question in relation to the payment of dues and how such payment affected members who might be sued for malpractice. He asked whether it was the intention of the Council to consider members delinquent after the time for payment of dues had passed without the dues being paid. For instance, if a man was sued on the 10th of the month and he had been delinquent in the payment of his dues since the 5th of that month, would the defense committee be acting properly in taking his case and defending him, or should the committee refuse its assistance on the grounds of his being delinquent?

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Dr. Miller: There is a prescribed time for the payment of dues. In all legal matters you must deal in actual facts. If our dues are to be paid by the first day of January, and the second day of January something comes up in which the status of a member is to be accurately defined, and he fails to show that on the very day he ought to pay he did not pay, of course, the next day he is legally delinquent.

Dr. Elam: It seems to me that if dues are not paid on the first of January, the member is delinquent on and after the first of January. I suggest that the secretary should notify the various county societies and request them to collect dues for the succeeding year by the 15th of December of the current year.

The Chair suggested that this should be given prominence in the JOURNAL.

Dr. Dorsett moved that the secretaries of county societies have printed on the bills for annual dues the following: "Only members who have paid their dues are entitled to the privilege of legal defense in suits for alleged malpractice."

Dr. Elam: County societies should be requested to amend their by-laws so as to have dues for the succeeding year payable on the 15th day of December.

Dr. Brummall: We should have more harmonious action. It seems to depend upon the councilor, or the state secretary, to "punch up" delinquents. If the state secretary and the county secretary will send out notices, I believe it would have a good effect.

Dr. Evans: I believe that in addition to printing the clause, suggested by Dr. Dorsett, on the secretary's receipt, it would be well if the same clause were printed on councilors' stationery, so that all delinquents would hear from both the secretary and the councilor.

Dr. Harrison: I believe the most practical way is to have printed bills and the secretary of the State Association mail these bills to the

secretaries of county societies to be mailed to each member. This would leave no excuse for delinquents. I move this to be an amendment to Dr. Dorsett's motion.

The amendment was seconded and on vote duly carried.

The reports of councilors were called for and the following members responded:

Dr. C. L. Evans, Councilor 1st District: Atchison County Medical Society is in good shape; in better shape than ever before, and the prospects are good for the coming year. There are sixteen members, five of whom at this time are delinquent. The average attendance is 8; number of papers read, 2; number of clinics, 2.

Holt County is doing fairly good work. Three new members were admitted during the year; the society lost two members by moving to other parts of the state, but these two immediately joined the societies in the counties where they located. We have three physicians in the county who are not members, but I hope that during the year we can bring them in. The average attendance at the meetings was 12; papers read, 9, and a number of cases were reported.

Nodaway County has had new life injected into it since the visit of Dr. McCormack on May 3d. The society has met since that time and taken up post-graduate work, as suggested by Dr. McCormack. I had the pleasure of being present at Dr. McCormack's meeting and was pleased with the enthusiasm which was manifest as a result of his talk. The average attendance of meetings during the year was 8; the number of papers read, 14; number of clinics held, 7. There are 35 members on the roll, 3 of whom are delinquent, and one moved away.

Dr. W. T. Elam, Councilor 2d District: St. Joseph-Buchanan County Medical Society has a membership of 87. There are 53 doctors in the county who are eligible to membership and 98 in the county not members. Meetings are held twice a month. The average attendance was 20; 13 papers were read during the year and 11 subjects discussed; 14 clinics were presented.

Andrew County, I regret very much to say, has practically ceased to meet. The members desire to affiliate with Buchanan County.

Dr. G. W. Whiteley, Councilor 3d District: DeKalb County is in a poor condition. There are thirteen members, seven of whom are delinquent. Last year they were doing good work, but many of the members have become indolent, and have apparently lost interest. I shall make special efforts this year to restore them to a good working basis.

Worth County has nine members, but four of them are delinquent. They have had a number of meetings, at which there was present an average number of five; five papers were read and two clinics presented. The papers that were read were good, and those members who meet are doing good work. I shall endeavor to stir up more enthusiasm in this county.

Harrison County is doing excellent work. I have visited this medical society a number of times and am glad to report that new life has been put into the society. Last year they were doing practically nothing, but this year they have held seven meetings, read five papers and held three clinics. There are seventeen members, only two of whom are delinquent.

Gentry County: We have been extremely busy in Gentry County since last December and only one meeting was held this year. It was well attended, though the members are somewhat disgruntled. I have endeavored to bring about harmony, but as yet have not succeeded.

I hope to have a splendid meeting in June at our semi-annual district meeting. I have visited all the counties in the district and have found DeKalb the most difficult one to keep in line. I shall visit them again and try to have all societies working earnestly before the next meeting.

Dr. C. R. Buren, Councilor 4th District, reports only for Sullivan County. Through the secretary of Sullivan County Medical Society he reports that it has been impossible to work up any special interest in county society work. The average attendance at such meetings as have been held was three. There are 13 members on the roll with one delinquent.

Dr. Parrish, Councilor 5th District: I have had correspondence with the secretaries of my district several times. I made a visit to the secretary of the Clark County Medical Society. The condition of the societies is not at all satisfactory in regard to members, meetings held, and interest taken in and outside of these societies. I regret to say that the physicians living outside of the county seats take very little or no interest in the society meetings.

Clark County: Number of active members, 6; number in county eligible to membership, 18; number of new members, none; number removed from county, none; number of meetings held, 1; number of scientific papers read, 4; financial condition, good; professional and social status, average.

Schuyler County: Number of active members, 8; number in county eligible to membership, 16; number of new members, 1; removed from county, none; number of meetings held, 4; number of scientific papers read, 12; financial condition, fair; professional and social status, fair only.

Scotland County: Number of active members, 7; number in county eligible to membership, 9; number of new members, none; number removed from county, 1; number of meetings held, 8; number of scientific papers read, 3; financial condition, good; professional and social condition, only fair.

Dr. E. C. Grim, Councilor 6th District: Lewis County has 18 members with 6 delinquents and one moved away.

Knox County had 8 members last year and they are all delinquent this year.

Adair County: Their meetings are held monthly with an average attendance of 8; number of papers read, 12; and number of clinics held, 14. The meetings have been interesting and the members are doing good work.

Dr. L. W. Dallas, Councilor 7th District: Shelby County meets quarterly, with an average attendance of 10; 6 papers have been read and 4 clinics held. There are 22 members, with no delinquents.

Ralls County has held no regular meetings, but in July they had a meeting with an attendance of 17; 10 papers were read at this meeting and, altogether, it was full of interest. Since that time interest in the society meetings has been lax.

Marion County is doing good work. There are 29 members, with only 2 delinquents. Meetings are held monthly, with an average attendance of 12. Ten papers were read and two clinics held.

Dr. A. R. McComas, Councilor 9th District: Audrain County has held a number of meetings, with an average attendance of 6. There are 21 members, with 1 delinquent.

Boone County holds meetings quite regularly, with an average attendance of 10; 12 papers were read and 21 clinics held. Membership is 31, with 4 delinquents.

Callaway County meets regularly and has an average attendance of 5 members; 5 papers were read and one clinic was presented. There are 23 members, 3 of whom are delinquent at this time.

Howard County is doing good work and meets monthly. Average attendance is 8; 3 papers were read and 12 clinics presented. The membership is 18, 4 of whom are delinquent.

Montgomery County was reorganized in 1908 and has had an average attendance of 6 at its meetings. There are 11 members, all paid-up at the present time, and I anticipate much good work from this society during the year.

Dr. J. D. Brummall, Councilor 11th District: The counties of the 11th District continue their interest in the State Association and in maintaining its component parts, the county societies. The membership in the four county societies has increased from 93 to 105; meetings held from 29 to 32; scientific papers read from 26 to 28; clinics presented from 11 to 12. Average attendance at meetings is 8. There were 152 doctors in the district at our last meeting; five have moved in and four have moved out of the district, while four have died, one in each county. There are now in the district 149 physicians. After failing in my first effort to organize the district, as desired by the State Association, a call was made for a meeting at Chillicothe in conjunction with the Grand River Medical Society, for the purpose of organization. I attended this meeting and we succeeded in merging the Grand River Society into the Grand River Medical Society of the Eleventh District, and enrolled all the members, 105, of the different county societies as members. We hope to have a very good meeting at Carrollton in December. Dr. J. N. McCormack visited us at Chillicothe on May 5th, and held some good meetings, which we expect to bear fruit.

Dr. E. H. Miller, Councilor 12th District: Daviess County has a live society. The secretary, Dr. M. A. Smith, is a splendid worker and his enthusiasm and interest keeps the members working together harmoniously. Dr. McCormack lectured at Gallatin and I want to express here my appreciation of the work of Drs. Brosius and Smith, as well as all other members of the society, for the success of Dr. McCormack's meeting.

Caldwell County has the banner society in my district. Its secretary, Dr. Tinsley Brown, is a man who is always on hand to help keep up the work.

Clinton County has a splendid working society. There is some friction on account of one member and this has caused a little lack of interest, but I hope to straighten it out before next year.

Clay County Medical Society is a wide-awake society and a credit to the profession. They are doing good work.

Platte County will do good work in the future. The past year has been a poor one, because of the dissension aroused by the application of a physician who was objected to by certain members. This I have adjusted, as reported at a previous session of this meeting, and I anticipate excellent work in Platte County in the future.

Ray County: I have visited this county and listened to two splendid papers read at the meeting. The society has an annual banquet, at which the members get together in a social as well as professional spirit. Dr. Major, the secretary, is especially deserving of commendation on account of the good work that he is doing.

Dr. M. P. Overholser, Councilor 15th District: The Cass County Medical Society held its meetings regularly every two months during the past year. The attendance has been fairly good, and while we feel that the interest in the work of the society could have been greater, its members are deserving of much credit for the good work they are doing. Never before in the history of our country has there been such a friendly feeling among the members of the profession as at the present time. The society gave a banquet at the close of its fiscal year, which was largely attended by the physicians of our county and their wives, and which was a success in every way, as it seemed to inspire the members with renewed interest. The total paid-up membership last year was 26; the total paid-up membership this year is 28. One of our members moved to Colorado, another to Kansas City, and two are delinquent. Notwithstanding the loss of these 4 members, we have made a slight gain in membership during the past year. Our society sent a delegate to the International Congress on Tuberculosis. On May 16th Dr. J. N. McCormack delivered a lecture to a large audience in our court house at Harrisonville, which aroused much interest in our community along the lines of public health. All the pastors of our city took part in this meeting and gave up their Sunday evening service in order that their congregations could hear the address of Dr. McCormack. The meeting was a decided success in every respect, and a committee, consisting of clergymen, lawyers, business men and physicians, was appointed to adopt measures for safe-guarding the public health interests in our county by inspection of public schools, slaughter houses, milk supplies, food products, etc. The pastors of our city requested Dr. McCormack to return to our city at any time in the future, as they would gladly give up their pulpits for meetings of this kind.

Johnson County: This society is in good working order and during the past year has shown an increased interest in the real work of the organization. More and better papers have been read than at any time in the past and a better feeling is manifested among the individual members. The members are beginning to wake up to the fact that it is the duty of the county medical society to teach the public the fundamental principles of sanitation, and the prevention of disease. Several public meetings have been held, which were well attended. The lecture of Dr. J. N. McCormack has done the people and the profession of our community much good and has lifted up our society in the estimation of the public. The society has taken up the post-graduate course and is doing good work along this line. The total membership is 25.

Dr. Buchanan, Councilor 16th District: In Bates County the work has been better than ever before. The great trouble is to get the members to attend the meetings. The interest is good and the discussion is general. Average attendance, 8; 12 papers read, and 2 clinics held.

Vernon County: We have had great difficulty in securing papers as assigned on the program. At the beginning of the year we issue our program for the entire year, appointing the essayists; during each month the secretary notifies each member of the approaching meeting by mailing him a card, but it seems impossible to keep up sufficient interest to secure either the papers or a reasonable attendance. It is astonishing to note the absolute indifference even of members who are regular attendants at the state meetings. We have some members who are always in attendance at the state meetings who never attend their county society meetings. The burning question now before the profession is how to secure and hold interest in and attendance at our local county

meetings. The social and professional conditions of this society are good and our finances are satisfactory. The total membership is 9.

Barton County Society has accomplished very little. The average attendance at the meetings that have been held was 10. One paper was read. The interest is very lax, but the secretary, Dr. C. F. Brown, reports that he will keep pegging away and I hope to make a more satisfactory report on this county next year.

Dr. R. D. Haire, Councilor 17th District: Benton County is very progressive. The interest in the meetings is increasing. The average number in attendance at the meetings was 8; 3 papers have been read and 4 clinics presented.

Henry County Medical Society is doing splendid work. All papers are prepared with care and the members take a great deal of interest in other phases of county society work. The average attendance at meetings was 14; number of papers read, 6; number of clinics presented, 8. These clinics are a source of great pleasure and information to the members.

Pettis County is doing splendid work. It has a membership of 43 and an average attendance of 11; 15 papers were read at the meetings, and 4 clinics presented. The program committee arranges a program in the fall for the following six months, and the papers are usually prepared by the members as assigned.

St. Clair County Medical Society had only one meeting during the year. There were 8 members present, and apparently all who attended were interested in the work.

Dr. Frank DeVilbiss, Councilor 18th District: Moniteau County holds meetings quarterly, with an average attendance of 12. The number of papers read was 10, and 15 clinics were presented. Considerable interest is shown in the work and we have had a number of real, meritorious papers, several of which were published in the JOURNAL. I believe every eligible physician in Moniteau County is a member of the society.

Camden County is in a very rough district, which makes it very inconvenient for members to hold meetings. There are 7 members. Several meetings have been held, with an average attendanc of 5 or 6, and 3 clinics were presented. The members in Camden County deserve great credit for maintaining an organization, as it is very difficult to attend the meetings on account of the distance necessary to travel and the lack of transportation facilities.

Miller County meets quarterly. The average attendance has been 10, and 5 or 6 papers were read at each meeting. Two clinics were held, at each of which four or five cases were reported. The papers read were studiously prepared and earnestly discussed by the members.

Dr. Ettmueller, Councilor 19th District: Cole County had no clinics and no papers were read during the year 1908. The new president has aroused considerable interest in society work and 4 clinics have been held since the election in January, 1909. I anticipate that this society will do much better work during the coming year.

Gasconade-Maries-Osage County Medical Society: I visited this society once during the year and found great interest among the members; nearly every member attended the meeting. Eight or nine papers were read and discussed, all taking part in the discussion. I am reliably informed that all other meetings of the society are well attended and I believe the interest in their proceedings is very pronounced. Dr. Ferrell, the new secretary, has unfortunately been sick, but he will do good work as soon as he is able to continue his duties.

Dr. G. M. Rutledge, Councilor 21st District: Ste. Genevieve County has 11 members, with no delinquents. Meetings are held quarterly, with an average attendance of 4.

Jefferson County has 11 members and one delinquent. The average attendance at the quarterly meetings is 6; 12 papers have been read, but no clinics presented. The society is doing good work.

Dr. F. R. Newberry, Councilor 22d District: Madison County meets the first and third Tuesday of each month. Average attendance is 8; number of papers read, 11; 3 cases were presented and 56 clinical reports made. The society is making good progress and the interest in the work is very excellent.

Mississippi County holds monthly meetings, with an average attendance of 8; 10 papers were read and 6 clinics held. There are 14 members, with no delinquents.

Scott County is in a good condition. Meetings are held on the first Monday in each quarter, with an average attendance of 9. Four papers were read and 2 clinics presented. The interest in the work is excellent and the discussions on papers and cases presented are very good.

Cape Girardeau County is doing good work. Meetings are held monthly, with an average attendance of 7; 16 papers have been read. The members take great interest in the work of the society and are progressing nicely.

Dr. T. C. Allen, Councilor 23d District: Stoddard County Society has had a quite successful year and has done work of a very high character. During the five years of the life of this society, it has never failed to hold its stated meetings and to do scientific work. The average attendance of the membership is very good, but I regret that the membership does not represent a larger per cent. of the eligible physicians of the county. However, the outlook is more gratifying than it was at this time last year.

Dunklin County: I have just recently succeeded in effecting a reorganization of this county and I feel that it is now on a good footing and will grow to satisfactory proportions.

Pemiscot County: I failed to perfect the organization of this county society, owing to unfavorable weather the day I visited Caruthersville, but matters there are in a satisfactory state and I think I shall be successful in having them at work soon.

New Madrid County has so far proved a hopeless case, but I hope by another year to report it organized and working.

I am sending up from Stoddard County an appeal by Dr. W. C. Dieckman from a decision of the society expelling him for unethical conduct, and it is accompanied by a transcript of the proceedings which are, I think, full and sufficient. I was a member of the board of censors of the local society, and in that capacity recommended a probational suspension of one year; the society, however, expelled him. Some subsequent developments in his actions and methods have caused me to think that the action of the society was not too severe, and I would, therefore, recommend that it stand.

In the case of Dr. H. LaRue, for reasons set forth in the transcript before you, I made no recommendation and have none to make now. I was not present at the meeting at which the vote of the society was taken on these two cases.

Dr. T. W. Cotton, Councilor 24th District: I have been able to obtain a report from only one county, Butler. This society is doing its second year of post-graduate work, with an occasional paper on some

practical subject. The attendance is better this year than at any previous year in the history of the society. The clinical work is practical and instructive; the papers show that great care has been given them, and as a rule are thorough and exhaustive.

Dr. J. F. Harrison, Councilor 25th District: The organization of the medical profession in the counties composing the 25th district is not good. Your councilor frankly admits that if it had been possible to give the work the attention that it should have had, the existing conditions might have been materially improved. In many instances the physicians live a great distance from the county-seat towns, and railroad facilities are either nil or very poor; consequently, it is impossible for the members to attend the meetings regularly, and, as a result of this, very little interest is taken. Naturally the doctors feel that they do not receive very great benefits from the organization.

Ten members of St. Francois County Society have paid dues for 1909, and 4 members in Iron County. Reynolds County and Washington County are still unorganized. I am not definitely informed, but am under the impression that some of the doctors in Reynolds and Washington hold membership in adjoining counties.

Dr. R. L. Johnson, Councilor 26th District: Dent County holds meetings monthly. The average attendance is 5. No papers were read, but 5 clinics have been presented.

Laclede County meets quarterly. Five papers were read and discussed, all the papers being on practical subjects, and the discussion animated and interesting. The average attendance at meetings is 10.

Pulaski County has 12 members, all paid-up, which represents all the eligible physicians in the county. The average attendance is 5, and 2 papers have been read at each meeting; also one clinic presented.

Phelps County meets quite regularly, with an average attendance of 6. Five papers have been read and the members are fairly well organized for continuing county society work.

Dr. H. C. Shuttee, Councilor 27th District: Carter-Shannon County is doing good work; meetings are held quarterly, with an average attendance of 6. Five papers were read and 2 clinics presented.

Howell County has 19 members, with 3 delinquents. The membership is very good, but the amount of scientific work and clinical material presented is not up to the standard. The meetings are held quarterly, with an average attendance of 8. Four papers were read and discussed.

Dr. T. A. Coffelt, Councilor 28th District: Webster County: I have been unable to obtain a report from the secretary of Webster County, but I know the society is doing good work and practically every eligible physician in the county is a member. The meetings are well attended and 7 papers have been read and discussed and 12 cases reported.

Polk County: I have not visited Polk County this year, but the secretary reports that the members are taking more interest in the work than they did in former years. They are beginning to feel the importance of maintaining the organization, and I look for much from this society in the next year. The average attendance has been 7 and 3 papers were read.

Lawrence-Stone is one of the best counties in our state. All meetings are well attended and papers read and discussed with interest and enthusiasm. The average attendance has been 18, and 14 papers were read.

Greene County holds weekly meetings and has taken up the postgraduate course. The general character of the scientific work is inspiring

and the interest good at all meetings. There are 55 members in good standing and 8 delinquent.

Barry County failed to give any report and I have been unable to pay a personal visit to this society during the year.

Taney County has held a number of meetings with an average attendance of 5; 4 papers were read and a number of cases reported. This society is only a year old. The transportation facilities to the meeting places being very poor, I consider the society has made a very good showing.

Christian County is in poor shape. The members are slow to attend the meetings, but some of them are so located that they lose much time in attending the meetings, hence the average attendance has been only 4. All members are in good standing and have paid their dues.

Dr. A. R. Snyder, Councilor 29th District: Cedar County meets monthly, and while no papers were read, a number of clinics were held, which proved instructive and interesting. The average attendance has been 5, but as it is difficult for some of the members to reach the meeting places, I consider this a fairly good showing. The society has been active in ridding the county of disreputable practitioners, so that at the present time every physician in the county is eligible to membership; there are 6 who have not as yet joined the society.

Newton County and McDonald County usually meet together. The papers read and the clinics presented have been very satisfactory, and the society is doing good work, although some apathy exists. The members have not as yet paid their dues, but the secretary reports that he hopes to secure all dues by the 15th of June.

Jasper County: The meetings have been very interesting to all those who attend. The attendance has not been as good as it should have been. Every member has been busy attending to his own affairs and attendance at meetings has been somewhat neglected. If meetings were monthly instead of weekly, of course the attendance would be much larger. The average attendance at the weekly meetings is 12; 28 papers have been read, and 15 clinics presented.

GENERAL SESSION.

FIRST DAY—Tuesday, May 18, 1909.

HOUSE OF REPRESENTATIVES.

The general session was called to order at 7:50 P. M., Dr. Woodson Moss in the chair.

The President, Dr. A. R. Kieffer, delivered his annual address.

Dr. Robert H. Goodier, of Hannibal, orator on medicine, delivered an address entitled, "The Trend and Benefits of Modern Medicine."

Dr. Frank J. Lutz, of St. Louis, delivered the oration on surgery, his subject being "The Nature of Cancer and Recent Additions to the Methods of Treating Inoperable Cancers."

On motion the session adjourned at 10:30 P. M.

SECOND DAY—Wednesday, May 19th, 1909.

The meeting was called to order at 8:10 P. M., Governor Herbert S. Hadley in the chair.

Dr. J. N. McCormack, chairman of the National Organization Committee of the American Medical Association, addressed the meeting on the subject of medical organization.

Governor Hadley also delivered a short address.

The session adjourned at 9:45 P. M.

THIRD DAY—Thursday, May 20th, 1909.

The general session was called to order at 9:30 A. M., President Kieffer in the chair.

Dr. Kieffer named the following tellers for the ballot on the election of president: Dr. Franklin E. Murphy, Kansas City; Dr. Rudd, Salem; Dr. J. H. Amerland, St. Louis; Dr. E. F. Jansen, Sedalia.

The Secretary read a report of the proceedings of the House of Delegates, as follows:

SYNOPSIS OF PROCEEDINGS.

"The report of the Committee on Medical Education recommended that provision be made for annual inspection of medical colleges in the State by personal inspection by the State Board of Health and the members of the Committee on Medical Education, acting together. Also that the general scheme of medical education, adopted by the American Medical Association in 1904 be adopted by the Missouri State Medical Association and the general scheme of medical education so outlined be recommended to the medical colleges of Missouri. The recommendations of the Committee on Medical Education, relative to the practice of midwifery, were referred to the Committee on Public Policy and Legislation.

"The report of the Committee on Public Policy and Legislation is the most satisfactory report that this committee has ever had the pleasure of making to the Association.

"A most gratifying part of the report is the fact that no adverse medical legislation was put on the statute books.

"The Medical Secretaries' Association held a meeting, at which were presented valuable and interesting papers on matters pertaining to the work of the county secretaries, councilors, etc.

"The Medical Defense Committee reported that a number of suits for malpractice had been defended, one of which was dismissed and the others continued. The committee was able to perform its duties and obtain competent legal advice without drawing upon the fund of $500.00, placed to its credit at the last annual meeting. The House of Delegates adopted a by-law, making defense a constitutional provision for the protection of our members, and appropriated $1,000.00 for a fund to be used for defending members.

"The Committee on Tuberculosis reported that our State has taken a prominent position in the list of states which try to prevent and control the ravages of this dread destroyer. A Tuberculosis Commission has been established in the City of St. Louis, and $25,000.00 appropriated out of the city's fund.

"Gov. Hadley has taken an active interest in public health matters and through his recommendation the State Penitentiary will be placed in a better sanitary and hygienic condition than obtained in previous years. The State Sanatorium for Incipient Tuberculosis has received an appropriation of $176,000.00, thus enabling that institution to extend its

beneficent care to a largely increased number of afflicted persons in our State.

"The Treasurer's report showed that the finances of the Association are in good condition and will permit a limited expenditure of funds in securing many objects which are the proper aims of this Association, such as medical defense and the revision of present medical laws and creating new laws.

"The Secretary suggested that a permanent official badge of membership be adopted, which has received the approval of the House of Delegates.

"A medical expert committee was authorized, to be appointed by the President, consisting of three members. This committee will confer with a like committee from the Missouri Bar Association, to devise means for developing a competent system of medico-legal expert testimony which shall be acceptable in cases of law."

On motion the report was received.

The tellers announced the result of the informal ballot for president, viz: Dr. Tinsley Brown, 89; Dr. H. E. Pearse, 57; scattering, 12.

Report of the tellers on formal ballot for president: Dr. Tinsley Brown, 114; Dr. Herman Pearse, 79. Dr. Brown was declared elected.

On motion the election of Dr. Brown was made unanimous.

Dr. Lester Hall nominated Dr. N. P. Wood, of Independence, for orator in medicine, and on motion the by-laws were suspended and the Secretary instructed to cast the ballot for Dr. Wood.

Dr. Griffith nominated Dr. Francis Reder, of St. Louis, for orator in surgery. On motion the by-laws were suspended and the Secretary cast the ballot for Dr. Reder.

On motion the general session adjourned.

MEDICAL SECTION.

SECOND DAY—Wednesday, May 19, 1909.

HOUSE OF REPRESENTATIVES.

MORNING SESSION.

The meeting was called to order at 9:40 A. M., Vice-Chairman, Dr. Franklin E. Murphy, Kansas City, in the chair.

The following papers were read and discussed:

The New Standard of the Diet with Reference to Health and Disease, by Dr. I. J. Wolf, Kansas City.

Discussion: Dr. Joseph Grindon, St. Louis; Dr. Sloan, Kansas City; Dr. Frederick W. Froehling, Kansas City; Dr. Bell, St. Joseph; Dr. Wolf, closing.

Acute Pulmonary Edema with Report of Cases, by Dr. James Q. Chambers, Kansas City.

Discussion: Dr. Pettit; Dr. Woodson, St. Joseph; Dr. I. J. Wolf, Kansas City; Dr. Wood, Independence; Dr. Porter, St. Louis; Dr. Sloan, Kansas City; Dr. Chambers, closing.

Tuberculosis as the General Practitioner Sees It, by Dr. O. H. Brown, Mt. Vernon.

Discussion: Dr. Bell, St. Joseph; Dr. Porter, St. Louis; Dr. I. J. Wolf, Kansas City; Dr. Schreiner; Dr. Schauffler, Kansas City; Dr. Ryland, Lexington; Dr. Brown, closing.

Serum Diagnosis of Syphilis, by Dr. John W. Marchildon, St. Louis.

Discussion: Dr. W. W. Graves, St. Louis; Dr. Joseph Grindon, St. Louis; Dr. Guthrie McConnell, St. Louis.

Adjourned at 12:20 to meet at 1:30 o'clock.

AFTERNOON SESSION.

The Section was called to order at 2 o'clock, Dr. Murphy in the chair.

The following papers were read and discussed:

The Value of a State Laboratory, by Dr. Guthrie McConnell, St. Louis.

Discussion: Dr. I. J. Wolf, Kansas City; Dr. McConnell, closing.

Fractures; General Considerations, by Dr. A. J. Campbell, Sedalia. No discussion.

Emergency Surgery in the Country, by Dr. J. B. Norman, California, Mo. No discussion.

Dr. Murphy having been summoned to the Judicial Council, Dr. N. P. Wood was called to the chair.

The Diagnostic Value of the Systolic Murmur at the Apex of the Heart, by Dr. Frederick W. Froehling, Kansas City.

Discussion: Dr. Sloan, Kansas City; Dr. Chambers, Kansas City; Dr. Wolf, Kansas City; Dr. Froehling, closing.

In the absence of Dr. Engelbach, it was moved that his paper be read at the end of the program.

Nine Cases of Cerebro-spinal Meningitis Treated with Flexner's Serum, by Dr. D. L. Harris, St. Louis.

Discussion: Dr. Wolf, Kansas City; Dr. Seba, Bland; Dr. Woodson, St. Joseph; Dr. Harris, closing.

Scientific Employment of Drugs, by Dr. W. R. Patterson, Tipton. No discussion.

The Relation of Physician and Surgeon in Appendicitis Cases, by Dr. A. B. Miller, Macon.

Discussion: Dr. Seba, Bland; Dr. W. G. Moore, St. Louis; Dr. Lester Hall, Kansas City; Dr. Nifong, Columbia; Dr. Norman, California; Dr. Cole, Sedalia; Dr. Hale, Dearborn; Dr. Miller, closing.

Meeting adjourned at 5 P. M.

THIRD DAY—Thursday, May 20, 1909.

MORNING SESSION.

The meeting was called to order at 10:45 A. M., Dr. Franklin Murphy in the chair.

Moved, seconded and carried that election of officers be held at 11:45 or as soon thereafter as possible.

Moved, seconded and carried that a committee of three be appointed by the chairman to notify members not present of the time set for election of officers. Drs. Brewer, Cole and Goin were appointed on this committee.

The scientific program was taken up and the following papers were read:

The Doctor as a Witness, by Dr. John Ashley, Bloomfield.

Discussion: Dr. Woodson, St. Joseph; Dr. Dallas, Hunnewell; Dr. Hale, Dearborn; Dr. Ashley, closing.

Election of officers.

Moved by Dr. Sloan that Dr. Franklin Murphy, Kansas City, be placed in nomination for chairman. Seconded and carried.

Moved that the by-laws be suspended and that the Secretary cast the ballot for Dr. Murphy. Seconded and carried.

Dr. Clark nominated Dr. H. B. Cole, Sedalia, for vice-chairman. Nomination seconded by Dr. Hale. Carried.

Moved, seconded and carried that the by-laws be suspended and the Secretary cast the ballot for Dr. Cole.

Moved by Dr. Allee that Dr. W. R. Patterson be nominated for Secretary. Seconded and carried.

Moved that the by-laws be suspended and that the chairman cast the ballot for Dr. Patterson. Seconded and carried.

At 12 o'clock the Section adjourned to meet at 1:30 P. M.

AFTERNOON SESSION.

The meeting was called to order at 1:50 P. M., Dr. Murphy in the chair.

Dr. Murphy apologized for being unable to read his paper which, by mistake, had been sent to the depot.

In the absence of Dr. Patterson, Dr. Statler was appointed temporary chairman.

In the absence of Dr. Child, whose paper had been forwarded, a motion was carried that his paper be read after the completion of the regular program.

Motion was carried that Dr. Engelbach's paper be read after completion of the regular program, if time permitted.

The following papers were read and discussed:

Obesity, by Dr. W. K. Statler, Oak Ridge.

Discussion: Dr. Joseph Grindon, St. Louis; Dr. Sloan, Kansas City; Dr. Murphy, Kansas City; Dr. Statler, closing.

Solidified Carbon Dioxid as a Tropical Agent, by Dr. Joseph Grindon, St. Louis.

Discussion: Dr. Goin, Breckenridge; Dr. Grindon, closing.

Ruptured Bladder with Report of a Case, by Dr. F. J. Tainter, St. Charles.

Discussion: Dr. H. C. Crowell, Kansas City.

Aneurysm of Thoracic Aorta, by Dr. Wm. Engelbach, St. Louis. This paper was read by Dr. Cole in the absence of Dr. Engelbach.

Discussion: Dr. Sloan, Kansas City; Dr. Grindon, St. Louis; Dr. Lester, Kansas City.

Malarial Infection in Children, by Dr. Scott P. Child, Kansas City. No discussion.

On motion the Section adjourned at 3:40 P. M.

SURGICAL SECTION.

SECOND DAY—Wednesday, May 19, 1909.

SENATE CHAMBER.

MORNING SESSION.

The Surgical Section convened May 19, 1909, at 9:00 o'clock A. M., and the following proceedings had:

Dr. James Moores Ball, St. Louis, read a paper entitled "Dr. Adam Hammer, Surgeon and Apostle of Higher Medical Education."

Dr. T. F. Lockwood, Butler, read a paper entitled, "Problems and Possibilities of a Country Practitioner from a Surgical Standpoint," which

was discussed by Drs. Francis Reder, St. Louis; A. H. Meisenbach, St. Louis.

Dr. W. E. Leighton, St. Louis, read a paper entitled "Anesthesia."

Dr. William W. Stevens, Kansas City, read a paper entitled "Late Effects of Chloroform."

Dr. C. M. Nicholson, St. Louis, read a paper entitled, "A Study of the Action of Scopolamine-Morphine on the Heart, Liver and Kidneys; with a Report of Six Hundred Cases of Scopolamine-Morphine Administered as a Preliminary to General Anesthesia."

The last three papers were discussed by Drs. W. B. Dorsett, St. Louis; C. H. Wallace, St. Joseph; F. J. Lutz, St. Louis; M. G. Seelig, St. Louis; J. Block, Kansas City; Jno. Punton, Kansas City; O. B. Campbell, St. Joseph; A. H. Meisenbach, St. Louis; Gordon A. Beedle, Kansas City; Herman E. Pearse, Kansas City.

Dr. M. G. Seelig, St. Louis, read a paper entitled "The Physiology of Shock," which was discussed by Dr. McCandless.

The session thereupon adjourned to meet at one o'clock in the afternoon.

AFTERNOON SESSION.

The Section was called to order at one o'clock by Chairman Tupper, and the following proceedings were had:

Dr. G. Wiley Broome, St. Louis, read a paper entitled "Compound Fractures and Remote Effects, Under Prevailing Treatment."

Dr. Herman E. Pearse, Kansas City, read a paper entitled "Internal or Direct Splints in the Treatment of Fractures."

The two papers were discussed by Dr. Jabez N. Jackson, Kansas City; Dr. A. H. Meisenbach, St. Louis; Dr. V. P. Blair, St. Louis.

Dr. C. W. Watts, Fayette, read a paper entitled "Report of a Case of Osteo-Sarcoma."

Dr. Vilray Papin Blair, St. Louis, read a paper entitled "The Proper Age at which to Operate for Clefts of the Hard Palate."

Dr. Francis Reder, St. Louis, read a paper entitled "Remarks on Tumors of the Parotid Gland."

Dr. Edward G. Blair, Kansas City, read a paper entitled "The Treatment of Parenchymatous and Exophthalmic Goitre."

Dr. Louis Rassieur, St. Louis, read a paper entitled "Report of Two Cases of Injury to the Heart."

Dr. C. R. Dudley, Hannibal, read a paper entitled "Cancer of the Stomach."

Dr. Max W. Myer, St. Louis, read a paper entitled "Regurgitant Vomiting Due to Unusual Adhesions Following Gastroenterostomy, with Pyloric Exclusion."

The chair thereupon announced that the hour for election of officers for the ensuing year had arrived, and the scientific program was temporarily suspended.

The following named officers were unanimously elected to serve for the ensuing year:

Chairman, Dr. Willard Bartlett, St. Louis. Vice-Chairman, Dr. C. R. Dudley, Hannibal. Secretary, Dr. Louis Rassieur, St. Louis.

The scientific work was thereupon resumed.

Dr. Fritz J. Moennighoff, Kansas City, read a paper entitled "Surgical Dyspepsia."

The papers by Dr. Dudley on "Cancer of the Stomach," Dr. Myer on "Regurgitant Vomiting," and by Dr. Moennighoff on "Surgical Dyspepsia," were discussed by Dr. Herman E. Pearse, Kansas City.

Dr. C. C. Morris, St. Louis, read a paper entitled "Practical Points in Abdominal Surgery."

The session thereupon adjourned.

THIRD DAY—Thursday, May 20th, 1909.

MORNING SESSION.

The Section was called to order at 9:00 o'clock by Chairman Tupper, and the following papers were read:

Dr. R. M. Funkhouser, St. Louis, read a paper entitled "Some Remarks Regarding Gall Bladder Diseases," which was discussed by Dr. Block, of Kansas City; Dr. Potter, of St. Joseph; Dr. Rodney J. Bunch, St. Louis; Dr. Francis Reder, St. Louis; Dr. John D. Seba, Bland, and Dr. Louis Rassieur, St. Louis.

Dr. Luther E. Todd, St. Joseph, read a paper entitled "A Critical Review of a Series of Appendix Cases," which was discussed by Dr. T. F. Lockwood, Butler; Dr. W. T. Elam, St. Joseph; Dr. J. D. Griffith, Kansas City; Dr. Paul Y. Tupper, St. Louis; Dr. A. R. Kieffer, St. Louis, and Dr. Francis Reder, St. Louis.

The paper by T. E. Potter entitled "Intestinal Obstruction with Special Reference to Paresis of the Bowel," was read by title.

The morning session thereupon adjourned.

AFTERNOON SESSION.

Section called to order by President Tupper.

Dr. Rodney J. Bunch, St. Louis, read a paper entitled "Surgical Treatment of Amebic Dysentery, by Appendicostomy," which was discussed by Dr. A. R. Kieffer, St. Louis; Dr. Louis Rassieur, St. Louis; Dr. J. D. Griffith, Kansas City; Dr. Coffey, Dr. Davis Forster, St. Louis.

Dr. H. S. Crossen, St. Louis, read a paper entitled "Ectopic Gestation Symptoms in Gonorrheal Salpingitis Cases," which was discussed by Dr. B. Clark Hyde, Kansas City; Dr. J. D. Griffith, Kansas City; Dr. A. R. Kieffer, St. Louis; Dr. Hall, Kansas City.

Dr. John McH. Dean, St. Louis, read a paper entitled "Dysmenorrhea," which was discussed by Dr. H. S. Crossen, St. Louis; Dr. Bradley; Dr. Davis Forster, St. Louis; Dr. Bridges.

Dr. Davis Forster, St. Louis, read a paper entitled "Ovarian Tumor Complicating Pregnancy, with Recovery After Operation," which was discussed by Dr. H. S. Crossen, St. Louis; Dr. Bradley; J. D. Griffith, Kansas City.

Dr. W. H. Coffey, Kansas City, read a paper entitled "Excision of Lower Part of Rectum; Report of Case," which was discussed by Dr. Stauffer, St. Louis; Dr. E. H. Thrailkill, Kansas City.

Dr. J. S. Wallace, Brunswick, read a paper entitled "Modern Methods in the Surgical Treatment of Rectal Diseases," which was discussed by Dr. E. H. Thrailkill, Kansas City; Dr. Lark; Dr. J. D. Griffith, Kansas City; Dr. C. H. Suddarth, Smithville.

Dr. E. H. Thrailkill, Kansas City, read a paper entitled "The Immediate Suture Operation in Fistulo in Ano; with Report of Cases."

Dr. C. H. Suddarth, Smithville, read a paper entitled "The Radical Operation for Hernia as Seen by the Country Surgeon," which was discussed by Dr. A. R. Kieffer, St. Louis.

Dr. B. Clark Hyde, Kansas City, read a paper entitled "Report of a Case of Shoulder-Joint Amputation, with Peculiar Sequelae," which was discussed by Dr. J. D. Griffith, Kansas City.

The paper by Dr. John D. Seba, Bland, entitled "The Open Method of Treating Joints, With Report of Case," was read by title.

A motion was made by Dr. J. D. Griffith that the Section extend to the officers a vote of thanks for the excellent and impartial manner in which the proceedings were conducted. The motion was seconded, and, being put to a vote by Dr. Griffith, was unanimously adopted.

Upon motion the Section thereupon adjourned *sine die*.

EYE, EAR, NOSE AND THROAT SECTION.

SECOND DAY—Wednesday, May 19, 1909.

COMMITTEE ROOM.

MORNING SESSION.

The Section was called to order at 9 o'clock, the Chairman, Dr. J. H. Thompson, presiding.

The Secretary, Dr. T. McLemore, not being present, Dr. Clarence Loeb, of St. Louis, was appointed Secretary pro tem.

After a few introductory remarks by the President, congratulating the members upon the formation of this Section, the official program was taken up and the following papers read:

"Prevention of Ophthalmia Neonatorum," by Dr. P. I. Leonard, of St. Joseph. This paper was discussed by Dr. John Green, Jr., of St. Louis; Dr. H. H. Look, of Kansas City; Dr. J. D. Pifer, of Joplin; Dr. Guy L. Noyes, of Columbia; Dr. Barton Pitts, of St. Joseph; Dr. F. B. Tiffany, of Kansas City; Dr. Leonard, in closing.

"Ophthalmological Experiences," by Dr. Barton Pitts, of St. Joseph.

Discussion: Dr. P. I. Leonard, St. Joseph; Dr. John Green, Jr., St. Louis; Dr. F. B. Tiffany, Kansas City; Dr. W. H. Schutz, Kansas City; Dr. J. D. Pifer, Joplin; Dr. A. E. Derwent, Clinton; Dr. H. H. Look, Kansas City; Dr. E. J. Norris, St. Louis; Dr. S. G. Kelly, Sedalia; Dr. John S. Wever, Kansas City; Dr. F. B. Tiffany, Kansas City; Dr. J. H. Thompson, Kansas City.

On motion the Section adjourned until 1:30 P. M.

AFTERNOON SESSION.

The Section was called to order by the Chairman at 1:30, and the following papers read and discussed:

"The Art of Refraction," by Dr. John Green, Jr., St. Louis.

Discussion: Dr. A. E. Derwent, Clinton; Dr. J. D. Pifer, Joplin; Dr. Green, in closing.

"Report of an Accidental Opening of the Lateral Sinuses," by Dr. Eugene M. Senseney, of St. Louis.

Discussion: M. C. Shelton, of Joplin; R. P. Scholz, of St. Louis; Dr. Senseney, in closing.

"Ocular Diseases Due to Systemic Influences," by Dr. W. H. Minton, of St. Joseph.

Discussion: Dr. P. I. Leonard, St. Joseph; Dr. John Green, Jr., St. Louis; Dr. F. C. Ewing, St. Louis; Dr. A. E. Derwent, Clinton; Dr. J. D. Pifer, Joplin; Dr. Minton, in closing.

"Corneal Ulcers and Their Treatment," by Dr. S. G. Kelly, Sedalia.

Discussion: Dr. Guy L. Noyes, Columbia; Dr. F. B. Tiffany, Kansas City; Dr. W. H. Schutz, Kansas City; Dr. Joseph Lichtenberg, Kansas City; Dr. John Green, Jr., St. Louis; Dr. J. D. Pifer, Joplin; Dr. Kelly, in closing.

"Our Overstocked Instrument Case a Plea for Operative Simplicity in Oto-Laryngology," by Dr. Fayette C. Ewing, of St. Louis.

Discussion: Dr. R. P. Scholz, St. Louis.

THIRD DAY—Thursday, May 20, 1909.

MORNING SESSION.

The Section was called to order by the Chairman at 9 o'clock.

Election of officers being in order, Dr. Noyes nominated Dr. John Green, Jr., of St. Louis, for president. On motion the rules were suspended and the Secretary instructed to cast the vote of the Section for Dr. Green. Dr. Lichtenberg nominated Dr. Clarence Loeb, of St. Louis, for Secretary. On motion the rules were suspended and the vote of the Section was cast for Dr. Loeb for Secretary.

The scientific program was then taken up and the following papers read:

"My Operation for the Extirpation of the Lachrymal Sac," by Dr. Carl Barck, of St. Louis.

Discussion: Dr. J. L. Lichtenberg, Kansas City; Dr. J. H. Thompson, Kansas City; Dr. B. F. Tiffany, Kansas City; Dr. Carl Barck, in closing.

"Ocular Examination as an Aid to Prognosis in Otitis Media Suppurativa," by Emil W. Klokke, St. Louis.

Discussion: Dr. Scholz, St. Louis; Dr. Barck, St. Louis; Dr. Lichtenberg, Kansas City; Dr. Pfingsten, St. Louis; Dr. Klokke, in closing.

"Some Phases of Labyrinthine Diseases Following Middle Ear and Mastoid Suppurations," by Dr. C. F. Pfingsten, St. Louis.

Discussion: Dr. Shelton, Joplin; Dr. Scholz, St. Louis; Dr. Barck, St. Louis; Dr. Ewing, St. Louis; Dr. Pfingsten, in closing.

"Methods of Clinical Teaching in Otology," by Dr. Seldon Spencer, St. Louis.

Discussion: Dr. Schutz, Kansas City; Dr. Ewing, St. Louis; Dr. Kelly, Sedalia; Dr. Lichtenberg, Kansas City.

"Glaucoma." Illustrated with stereopticon views of microscopical specimens, by Dr. F. B. Tiffany, Kansas City.

Discussion: Dr. Barck, St. Louis; Dr. Tiffany, in closing.

"Accidental Removal of the Stapes," by Dr. F. C. Simon, St. Louis.

Discussion: Dr. Schutz, Kansas City; Dr. Pfingsten, St. Louis; Dr. Simon, in closing.

"Osteoma of the Choroid," by Dr. W. H. Schutz, Kansas City.

Discussion: Dr. Klokke, St. Louis; Dr. Tiffany, Kansas City; Dr. Barck, St. Louis; Dr. Schutz, in closing.

On motion adjourned to 1:30 P. M.

AFTERNOON SESSION.

The meeting was called to order by Dr. Ewing.

Dr. W. E. Sauer, of St. Louis, read a paper entitled "Otitic Sinus Phlebitis and Thrombosis; With Report of a Case of Phlebitis and Thrombosis of Lateral Sinus and Jugular Bulb."

There being no discussion, the Section adjourned *sine die*.

MISSOURI SOCIETY OF MEDICAL SECRETARIES.

TUESDAY, MAY 18TH.

The Missouri Society of Medical Secretaries met in the House of Representatives at 3:30 P. M., the president, Dr. F. W. Burke, in chair. The secretary, Dr. Chas. Wood Fassett, being absent on account of illness, Dr. Tinsley Brown was elected secretary pro tem. The minutes of the last meeting being absent could not be read and there being no further business the program was taken up, and the following papers read:

"The Missouri State Medical Association: What it Should Mean to the Missouri Doctor," by Dr. Tinsley Brown, of Hamilton. "What it Should Mean to the State at Large," by Dr. E. C. Grim, of Kirksville. "The Secretary's Work From a Business Standpoint," by Dr. E. N. Chastain, of Butler. "The State Journal: What it Should Mean to the Individual Member," by Dr. L. W. Dallas, of Hunnewell. "What the County Secretary Can Do to Make the State Journal a More Forceful Element in Medical Organization," by Dr. E. J. Goodwin, of St. Louis. This paper was read by the secretary in the absence of the author whose duties demanded his attendance at the Council meeting. "Prosecution of Irregulars: The Experience of a County Secretary," by Dr. M. A. Smith, of Gallatin. The papers were more or less discussed.

The election of officers for the ensuing year was then held and resulted as follows: E. N. Chastain, Butler, president; Dr. E. C. Grim, Kirksville, vice-president; Dr. V. O. Williams, Nevada, second vice-president. Dr. Chas. Wood Fassett, St. Joseph, was re-elected secretary-treasurer.

The executive committee was to be appointed by the incoming president. The society took a recess to meet at the dining hall for banquet. The menu was furnished by the ladies of the Christian Church in a building just east of the new Supreme Court Building. About fifty secretaries and others participated in the banquet from 7:30 to 8:30. Dr. J. N. McCormack delivered an address on medical organization, after which the society adjourned to meet at the time of the next meeting of the Missouri State Medical Association.

Following is a list of members registered at the Fifty-second Annual Meeting:

Amerland, J. H., St. Louis.
Anthony, C. A., Fredericktown.
Anthony, F. R., Maryville.
Albus, E. A., Smithton.
Alderman, M. C., Sedalia.
Asher, J. A., Trenton.
Allee, W. L., Eldon.
Allee, W. S., Olean.
Allee, E. M., Speed.
Allee, G. D., Lemar.
Aldridge, M. R., Jefferson City.
Adkins, C., Independence.
Ashley, John, Bloomfield.
Bartlett, Willard, St. Louis.
Bedford, S. V., Jefferson City.
Brosius, W. L., Gallatin.
Brown, F. H., Billings.
Barck, Carl, St. Louis.
Brosius, W. L., Jr., Gallatin.
Bonham, V. Q., New Franklin.
Burke, F. W., Laclede.
Braecklein, W. A., Higginsville.
Burdett, C. W., Branson.
Buchanan, J. R., Nevada.
Bullock, F. E., Forest City.
Brown, Tinsley, Hamilton.
Beedle, Gordon A., Kansas City.
Beatie, W. R., Marshfield.
Bell, W. T., Stoutsville.
Benham, C. E., Parksville.

Burke, J. P., California.
Bohling, C., Sedalia.
Brummall, J. D., Salisbury.
Babler, E. A., St. Louis.
Baker, J. H. T., Salisbury.
Broome, G. Wiley, St. Louis.
Block, J., Kansas City.
Bridges, J. R., Kahoka.
Bradley, A. H., St. Louis.
Bell, J. M., St. Joseph.
Boulware, T. C., Butler.
Blair, E. G., Kansas City.
Breuer, W. H., St. James.
Brown, O. H., Mt. Vernon.
Bunch, Rodney J., St. Louis.
Bryan, E. M., Fulton.
Crossen, H. L., St. Louis.
Curl, A. C., Cross Timbers.
Clark, W. A., Jefferson City.
Cole, H. B., Sedalia.
Chandler, J. F., Forest City.
Chapman, A. W., Charleston.
Craig, T. B., Nevada.
Callaway, T. H., Nevada.
Carthrae, Lewis, Corder.
Cline, W., Appleton City.
Campbell, A. J., Sedalia.
Crowson, E. L., Pickering.
Cotton, T. W., Van Buren.
Clark, J. W., Carterville.
Crabtree, J. W., Butler.
Coffey, W. H., Kansas City.
Chambliss, E. L., Kansas City.
Callison, E. C., Kirksville.
Chastain, E. N., Butler.
Chesmore, H. P., Princeton.
Chambers, J. C., Kansas City.
Crowell, H. C., Kansas City.
Dawson, J. W., El Dorado Springs.
Dove, O. H., Kansas City.
Dallas, L. W., Hunnewell.
Dillon, Marion, Fairfield.
Duncan, J. H., St. Louis.
Davis, J. R., Mokane.
Dunaway, L. T., Caplinger Mills.
Donaldson, G. H., Kansas City.
Dorsett, W. B., St. Louis.
Dorsett, E. Lee, St. Louis.
Dickson, W. R., Tuscumbia.
Derwent, A. E., Clinton.
DeVilbiss, E. F., Nevada.
DeVilbiss, Frank, Eugene.
Downing, T. J., New London.
Dudley, C. R., Hannibal.
Estill, W. G., Lawson.
Engman, M. F., St. Louis.
Elam, W. T., St. Joseph.
Ettmueller, G., Jefferson City.
Enloe, C. F., Jefferson City.
Evans, C. L., Oregon.
Elliott, W. H., Bunceton.
Ewing, Fayette C., St. Louis.
Freudenberger, H. C., Clarksburg.
Funkhouser, R. M., St. Louis.
Fulton, Frank, Plattsburg.
Ferguson, W. J., Sedalia.
Fleming, J. B., Aurora.
Fischer, J. G., Alma.
Fulton, A. L., Kansas City.
Froehling, F. W., Kansas City.
Farrington, O. P., Moundville.
Farrington, F. B., Green Top.
Forgrave, H. B., St. Joseph.
Forgrave, J. R., St. Joseph.
Ferguson, A. D., Auxvasse.
Furnish, J. A., Paris.
Franklin, J. A., Cameron.
Frick, W. J., Kansas City.
Forster, Davis, St. Louis.
Graves, W. W., St. Louis.
Griffith, J. D., Kansas City.
Goins, G. W., Breckenridge.
Goodwin, E. J., St. Louis.
Goodier, R. H., Hannibal.
Gebhart, O. C., St. Joseph.
Green, John, Jr., St. Louis.
Gaines, J. W., Kansas City.
Gibbins, W. N., Clinton.
Grindon, Joseph, St. Louis.
Grim, E. C., Kirksville.
Hoefer, A. E., Higginsville.
Herndon, A. S., Camden Point.
Hopkins, T. A., St. Louis.
Hampton, J. R., Clinton (R. F. D.).
Harrison, J. F., Farmington.
Holliday, J. W., Tarkio.
Hamel, A. H., St. Louis.
Haire, R. D., Clinton.
Henson, L., Galina.
Hough, C. P., Jefferson City.
Howard, F. A., Slater.
Hagler, M. C., Monett.
Hall, G. C., Lees Summit.
Hill, Howard, Kansas City.
Highfill, M., Marshfield.
Hornback, E. F., Hannibal.
Hutton, W. S., Fornfelt.
Harris, J. A., Mt. Vernon.
Hume, E. L., Bourbon.
Hale, J. M., Dearborn.
Hays, B. W., Jackson.
Hypes, B. M., St. Louis.
Hill, J. A., Jefferson City.
Hall, C. Lester, Kansas City.
Hall, John R., Napton.
Hall, John R., Marshall.
Hiller, F. B., Kahoka.
Hamlin, C. W., Bass.
Inglish, J. E., California.
Jenson, N. N., Florissant.
Jackson, C. M., Columbia.
Jackson, Jabez N., Kansas City.
Jones, V., Cameron.
Klien, W. A., Higginsville.
Kampschmidt, A. W., Columbia.
Kirkpatrick, H. E., Dalton.
Kelly, S. G., Sedalia.
Kennedy, W. U., St. Louis.
Kieffer, A. R., St. Louis.
Knox, A. C., Kansas City.
Kouns, D. H., Tuscumbia.
Kuhn, W. F., St. Joseph.
Klokke, W. Emil, St. Louis.
Lester, Charles H., Kansas City.
Lutz, F. J., St. Louis.
Lyle, A. E., Butler.
Langsdale, J. M., Kansas City.
Love, J. G., Nevada.

Lemen, J. R., St. Louis.
Lyle, Halsey M., Kansas City.
Liston, E. H., Balm.
Latham, L. L., Latham.
Latham, H. W.. Latham.
Leighton, W. E., St. Louis.
Leach, H. T., Elston.
Lindley, W. T., Hamilton.
Lane, J. W., Linneus.
Lemon, G. B., Springfield.
Leonard, P. I., St. Joseph.
Loeb, Clarence, St. Louis.
Lindley, E. R., Stanberry.
Lichtenberg, J. A., Kansas City.
Lockwood, T. F., Butler.
McAlester, A. W., Columbia.
McAlester, A. W., Jr., Kansas City.
McNees, A. J., Clinton.
Minton, W. H., St. Joseph.
Marchildon, J. W., St. Louis.
McConnell, S., St. Louis.
Myer, J. S., St. Louis.
Moeninghoff, Fritz, Kansas City.
McGuire, M. S., Arrow Rock.
Meisenback, A. H., St. Louis.
Moore, J. G., Mexico.
Mitchell, W. F., Lancaster.
Monroe, A. E., Otterville.
Miller, W. McU., Columbia.
Marsh, J. W., Tipton.
Marsh, H. S., Tipton.
Murphy, Franklin E., Kansas City.
Moore, Geo. M., Linn Creek.
Moore, J. G., Mexico.
Moore, W. G., St. Louis.
McDonald, H. A., Jefferson City.
Morrow, W. F., Kansas City.
Morris, C. C., St. Louis.
Miller, E. H., Liberty.
McConkey, C. M., Lathrop.
McComas, A. R., Sturgeon.
McCall, H. B., Kansas City.
Moss, Woodson, Columbia.
Murray, S. A., Holden.
Mills, Sherman, Macks Creek.
Meisch, A., Manchester.
Miller, A. B., Macon.
Myers, Max W., St. Louis.
Nowlin, David, Montgomery City.
Nifong, Wm., Fredericktown.
Nietert, H. L., St. Louis.
Norwine, J. J., Poplar Bluff.
Newberry, F. R., Fredericktown.
Nicholson, C. M., St. Louis.
Newlon, J. S., Butler.
Norman, J. B., California.
Norris, E. J., St. Louis.
Noyes, Guy L., Columbia.
Norberg, G. B., Kansas City.
Nifong, Frank G., Columbia.
Neff, Robert L., Joplin.
Overholser, M. P., Harrisonville.
Parrish, J. S., Memphis.
Pitts, Barton, St. Joseph.
Pressnell, C. C., Charleston.
Parker, C. W., St. Louis.
Pearse, H. E., Kansas City.
Payne, H. C., Paris.
Pints, W. A., St. James.
Pitman, John, Kirkwood.
Porth, J. P., Jefferson City.
Porter, F. E., St. Joseph.
Porter, Wm., St. Louis.
Peters, M. L., Cameron.
Pifer, J. D., Joplin.
Pipkin, W. D., Excello.
Patterson, W. R., Tipton.
Punton, John, Kansas City.
Parman, D. R., St. Louis.
Pfingsten, C. F., St. Louis.
Porter, D. R., Kansas City.
Rassieur, Louis, St. Louis.
Reeves, Geo. W., Japan.
Rudd, W. E., Salem.
Reder, F., St. Louis.
Ryland, C. T., Lexington.
Rhodes, E. L., Lincoln.
Rowland, W. P., Bevier.
Rumbold, F. M., St. Louis.
Robinson, E. F., Kansas City.
Robinson, J. F., Nevada.
Robinson, J. L., Kansas City.
Redman, Spence, Platte City.
Schudde, O. N., Sullivan.
Suddarth, C. H., Smithville.
Statler, W. K., Oakridge.
Schorer, E. H., Columbia.
Smith, M. S., Gallatin.
Spurgeon, M. E., Red Bird.
Smith, J. R., Warsaw.
Snyder, A. R., Joplin.
Shobe, H. G., Paris.
Saunders, L. E., Stewartsville.
Shelton, J. C., Chillicothe.
Stevens, B. N., Chillicothe.
Summers, J. S., Jefferson City.
Schwald, W. A., Cole Camp.
Skinner, E. H., Kansas City.
Stevens, W. W., Kansas City.
Schutz, W. H., Kansas City.
Sanders, C. A., Marble Hill.
Seba, John D., Bland.
Schrieman, F., Concordia.
Scholz, Roy P., St. Louis.
Shelton, M. C., Joplin.
Shy, D. E., Knobnoster.
Sloan, R. T., Kansas City.
Savage, H. G., Warsaw.
Sand, M. L., Warsaw.
Senseny, Eugene, St. Louis.
Simon, F. C., St. Louis.
Shankland, Wm., Clinton.
Schauffler, E. W., Kansas City.
Sampson, J. H., St. Joseph.
Seelig, M. G., St. Louis.
Spencer, Selden, St. Louis.
Strode, R. C., Mexico.
Son, E. R., Osage City.
Thompson, J. H., Kansas City.
Traubitz, A., Neelysville.
Tainter, F. J., St. Charles.
Townsend, J. A., Unionville.
Todd, L. A., St. Joseph.
Thornton, J. E., Columbia.
Thrailkill, E. H., Kansas City.
Tout, B. B., Archie.
Thorpe, J. L., Jefferson City.
Twyman, G. T., Independence.

Thorpe, A. V., Jamestown.
Tupper, Paul Y., St. Louis.
Timberman, J. K., Marston.
Taylor, Herbert, New Bloomfield.
Titsworth, Guy, Sedalia.
Temple, C. H., Glasgow.
Tiffany, Flavel B., Kansas City.
Tidwell, G. W., DeSoto.
Unsell, J. R., Louisiana.
Vinyard, G. W., Jackson.
Wood, N. P., Independence.
West, W. W., Monett.
Wallace, C. H., St. Joseph.
Waterman, J. A., Jefferson City.
Williams, V. O., Nevada.
Wentker, B. P., St. Charles.
Wright, U. S., Fayette.
Wood, J. T., Harrisburg.
White, W. L., Chillicothe.
Wood, E. A., Sedalia.
Witmar, C. M., Marble Hill.
Woodson, C. R., St. Joseph.
Williams, D. B., Osceola.
Whipple, N. L., Butler.
Wilson, G., Nevada.
Woods, R. J., Smithville.
Wever, J. S., Kansas City.
Wallis, J. R., Clinton.
Wingo; T. B., Fulton.
Wilson, G. S., Fortuna.
Wallace, J. S., Brunswick.
Williams, P. E., Fulton.
Williamson, W. H., Mokane.
Wolf, I. J., Kansas City.
Welch, J. Franklin, Salisbury.
Wood, A. M., Lentner.
Watts, C. W., Fayette.
Yancey, E. F., Sedalia.

REPORT ON COMMITTEE ON SCIENTIFIC WORK.

Your committee reports that an effort has been made to extend to all members of the state the privilege of contributing papers in the several Sections of the Association. Letters were sent during the winter to the secretaries of the various county societies requesting the names of those members desirous of, or willing to contribute papers. To those members letters were sent requesting such contributions. As a result thirty-four papers have been secured for the Medical Section; twenty-eight for the Eye, Ear, Nose and Throat Sections; fifty-three for the Surgical Section and ten for the Society Secretaries' meeting—a total of one hundred and twenty-five papers.

The expenses have been as follows:

Printing program, envelopes, stamps, etc.	$113.39
Postage on Eye, Ear, Nose and Throat Section	11.00
Postage on Medical Section	11.55
Postage on Surgical Section	13.50
	$149.44
Credit account Missouri Pacific Railway Co. (for including time table)	7.00
Total	$142.44

The cost of the program has been somewhat greater than heretofore, because it contains four pages more of printed matter. This has been necessary because of the greater length of the program, and also because it presents announcement of the coming meeting of the American Medical Association.

Your committee extends its thanks to Dr. E. J. Goodwin for his valuable assistance in the preparation of the program.

Respectfully submitted,

E. E. Gilmore,
W. R. Patterson,
T. McLemore,
P. Y. Tupper,
Willard Bartlett,
J. H. Thompson,
Committee on Scientific Work.

REPORT OF PUBLICATION COMMITTEE.

As in previous years, your committee has examined the advertising copy furnished by all advertisers previous to its appearance in the JOURNAL, and has endeavored to confine the statements concerning the therapeutic value of articles so advertised to reasonable grounds. In a number of instances alterations in the wording of the advertisements have been suggested by the committee and accepted by the advertisers.

The twelve issues of the JOURNAL, from June, 1908, to May, 1909, inclusive, contain 875 pages of reading matter, an average of 73 pages in each issue. This is made up of the following matter: Eighty-three original articles, 55 of which were the papers read at the last annual meeting, and 28 papers read at county and district society meetings; 50 editorials; 105 reports of county society proceedings; the roster of membership; book reviews, and miscellaneous matter, such as editorial notes, news items, changes of address of members, lists of officers of the State Association and all the county societies, and the index for Volume IV.

The cost of publishing the JOURNAL is as follows: June, 1908, $254.10; July, 1908, $109.30; August, 1908, $118.90; September, 1908, $116.05; October, 1908, $124.05; November, 1908, $152,15; December, 1908, $157,10; January, 1909, $159.40; February, 1909, $138.85; March, 1909, $124.00; April, 1909, $136.25; May, 1909, about $135.00.

Sample copies of the JOURNAL were mailed to eligible non-members several times during the year, for the purpose of assisting county secretaries in their efforts to induce desirable physicians to join the local societies.

Your committee has one suggestion to make in connection with the publication of the JOURNAL, which, if adopted, will in future assist in preserving the likenesses of the presidents of the Association, a collection of which, hitherto overlooked, should be part of the records of the Association, to be preserved by the secretary. We understand that the secretary is now trying to collect the portraits of all former presidents of the Association, and the plan which we submit will keep such a collection intact. We suggest, therefore, that in future the editor of the JOURNAL be authorized to secure a photograph of each new president and that he publish as a supplement to the issue containing the annual transactions, a half-tone reproduction of the portrait and insert in each copy of that issue one copy of the portrait of the president; that the portrait be printed on extra heavy paper of good quality, suitable for framing; that under the portrait there be printed the name of the president in full and the statement that he was president of the Missouri State Medical Association during the year for which he was elected to serve; that the additional expense incurred in publishing the portrait of the president shall be borne by the Association.

WALTER B. DORSETT, Chairman;
M. B. CLOPTON,
M. C. SHELTON.

REPORT OF THE DEFENSE COMMITTEE.

The Defense Committee, which was appointed last year under a resolution of the Association, begs leave to make the following report:

There have been brought to the attention of your committee seven malpractice suits, either threatened or instituted. One of these, against

a member of the St. Louis Medical Society, was tried and defeated. The others are still pending. In one instance your committee did not feel justified in extending the aid of the Association to a member, because the lawsuit had been instituted against him before he joined his county society or the State Medical Association.

Your committee is pleased to report that it has not been necessary to draw upon the funds set aside for the purposes of this committee during the past year, except for postage. We were so fortunate as to secure the gratuitous legal services of Mr. Morton Jourdan for such advice as was necessary to carry on the correspondence and advice of the committee to our members. By this action Mr. Jourdan has again placed the medical profession of this State under many obligations to him, for which the committee desires to return its sincere acknowledgments.

From our experience in dealing with cases of malpractice during the past year your committee is convinced that the temporary arrangements made last year should become permanent for this Association, with such reasonable restrictions as are necessary in view of the limited resources at the disposal of the Association. Last year $500.00 were set aside for the purposes of this committee; this sum should not be returned into the treasury, where it would go at the expiration of the year, but should be set aside as a permanent fund, to which might be added at this meeting an additional sum, thus beginning a permanent defense fund. Out of this fund could be defrayed the necessary expenses of defending members, provided careful scrutiny were made of cases brought against members before the Association obligated itself to defend them.

In the nature of things the defense committee should be familiar with all the facts in the case before it is in a position to give advice of any kind, and the defense committee must be given ample authority to insist upon a presentation of all the facts on the part of the practitioner as soon as suit is threatened. This procedure the committee has endeavored to follow during the past year and its purposes have apparently not been understood by some of the members. In its general consideration of cases, the committee has been governed by the amendments to the by-laws proposed by Dr. C. E. Fulton, of Springfield, at the last meeting of the Association and published in the June number of the JOURNAL, on page 759. We recommend that these by-laws be adopted by the Association.

The committee also reports, with great pleasure, the *esprit de corps* of the organized medical profession. In all instances where the committee has called upon councilors and officers of county societies for aid in defending suits of malpractice, prompt and cheerful response has been made and efficient service rendered by all concerned. The committee desires officially to record its appreciation of this assistance.

Respectfully submitted,

F. J. LUTZ, Chairman;
JOSEPH GRINDON,
WALTER B. DORSETT.

REPORT OF STATE SECRETARIES ASSOCIATION.

Mr. President and Delegates of the Missouri State Medical Association:

The officers of the Missouri Society of Medical Secretaries are today bringing to you their first annual report. Something over a year ago, at the instance of the President and Secretary of the Missouri State

Medical Association, there were held two meetings of the County Secretaries, one at St. Louis and one at Kansas City. At this time the organization of the Missouri Society of Medical Secretaries was begun, and at the annual meeting in 1908 it was perfected by the election of officers and the adoption of a constitution and by-laws.

What has been done since that time to place the organization on a broader foundation, is only a matter of detail and some effort, which needs no comment at this time.

We expect this society to become stronger with each succeeding year and eventually to become the most potent factor in medical organization in Missouri.

During the past year our needs have been limited, but for the future, when we shall have done greater things, our needs will be multiplied and our demands will be larger. There are two minor recommendations to be presented for your consideration and one of vast importance which should have the careful attention of the House of Delegates.

1st. We would recommend that the Judicial Council set aside for the secretary of this society, sufficient funds to pay the expense of getting up a program for the annual meeting, and for such other expense as may be legitimately incurred in keeping up the correspondence of this office, say an appropriation of $10 to $25 per year.

2d. We would recommend that the General Secretary be instructed to procure suitable stationery for the secretary of this society when he is purchasing other stationery supplies for the Association. This can be done with little additional expense and will be money well expended.

3d. The State Secretaries Society is a permanent organization in Missouri and we need more time for our meetings. The first day of the Association is devoted to the House of Delegates and the Council. We would advise that in future the Secretaries' meeting be given the afternoon, say from 3:30 P. M., and also the evening. We need the time and this House of Delegates can ill afford not to recognize the great advantage this would be to the general association.

The evening of the second day can be devoted to the President's address and the orations. The large attendance in itself would be sufficient reason for this change. The first day's work being largely routine and devoted to business, very many of the members do not come, but they are all on hand the second day, and if for no other reason the President's address and the orations should be placed on the second day. But, by far a greater reason is to give the secretaries an opportunity for discussing the work which confronts them every day in building up this great profession into one compact organization. The business of the Missouri State Medical Association is largely transacted by the county secretary. To him you look for the solution of every local problem. He is the mentor of local affairs; from him you expect accurate, exact and prompt action. Delay is unpardonable. By him you measure the professional atmosphere of every county. Through him you know the standing of every doctor in Missouri to-day. He is the pulse of the Association and sphygmographic reports from his office mark the rise or decadence of medical organization. It is due this progressive body of men that they be given sufficient time to discuss your interests. They need uniformity in method, which can be gained only by concerted action and a general understanding of one another's work. They need the inspiration which comes from the exchange of ideas. They need harmony in action which comes only from the intermingling of thought and experience. They need to follow the best systematized plans which are the result of a united effort.

The state secretaries are now making this effort and we request this House of Delegates to see to it that they have sufficient time to work out and systematize the very best methods which will culminate in the general up-building of the organization and redound to the credit of the Missouri State Medical Association. Two or three hours are insufficient time to discuss the many questions which are of vital importance. Give us the evening of the first day next year and then come and help us. We devote too little time to business; are too lax in methods and frequently meet each other trying to accomplish the same ends with diametrically opposed forces, which not only renders inert our efforts, but adds another stigma to the name of our profession.

Let us stop drifting and become methodical. Let us stop guessing and become exact. Give the men whom you expect to perform the business of your county organization an opportunity to discuss the business of that organization together, and they will be better prepared to perform their duties and to give you the service you expect.

Gentlemen, the State Society of Medical Secretaries is destined to become the greatest auxillary to the Missouri State Medical Association and the sooner we recognize this fact, and start them along lines of a united effort, the sooner will the great purposes of our great organization be attained.

Respectfully submitted,

F. W. Burke, Chairman.

SECRETARY'S REPORT.

To the President and House of Delegates of the Missouri State Medical Association:

I have the honor to submit the following report: The past year has been the most prosperous and one of the most important in the history of this Association. Our membership is greater than ever before. In 1905 our membership was 1,602, in 1906 it was about 2,000, in 1907 it was nearly 2,500, and at the close of our fiscal year, December 31st, 1908, our membership was 2,664. To-day, including our delinquents, it is 2,851, of which 2,404 have paid their 1909 dues. When this is compared with the membership of this Association ten years ago, at which time the membership was 191, the growth is astounding. During the past year thirteen of our members have died, seventeen have moved from the State and three have been suspended from membership, one of these having left the State. About one hundred and fifty new members have been received into the Association and fifty have joined the American Medical Association since our last meeting. Biographical data for about 500 members has been completed. Nearly 700 cards have been added to the biographical index. Biographical data for many of our members is still missing.

None of our component societies has dropped out of the organization. Dunklin County, with twelve members, and Pemiscot County, with nine members, have been reorganized by Dr. T. C. Allen, Councilor 23d District; Montgomery County, with eleven members, has been organized by Dr. A. R. McComas, Councilor 9th District.

The first of the year each secretary was sent a list of his members, and again on April 1st they were sent a list of their delinquents. At the same time a copy of these lists were sent the councilors. On the first

of May we filled out blanks for all the counties and forwarded them to the councilors so that they might make a full and complete report for every county in the State, and be informed of the exact condition of the counties and the relation of each individual member to the State Association. These reports are so made that they can be placed in the files for permanent record.

As we had no place to file records, letters, journals, etc., belonging to the Association, we have purchased a desk and a large letter file. Ordinary office supplies have from time to time been purchased, receipts for which are filed with the treasurer.

So far as the mechanical part of the organization is concerned it is about perfected. The above figures give some idea of it. Some time ago the secretaries were written for a list of the eligible physicians in their counties; the replies so far received give the names of about three hundrd physicians. Six of our secretaries have reported that they have every eligible physician in the county a member of the society, and a united effort on part of the others to bring into our ranks all eligible physicians would practically complete our organization, so far as numbers are concerned, and would strengthen the ranks of the counties and State Association to such an extent as to allow them hereafter to devote their entire energies to getting the best results and benefits of the organization; the benefits of a post-graduate school; the establishment of friendly relation and good fellowship among the members. In other words, our energies could be devoted to building live, active, studious, respect-compelling medical societies, and we could bring to an end those bitter and disgraceful fights among medical men which have been a lasting disgrace to our profession and have brought us into ridicule in the public mind and the public press.

Dr. J. N. McCormack has been traveling over this State on such a mission, and in every place he has been met with a hearty and cordial response both from the public and the profession. He has been teaching the people that our societies are educational centers; that it is the public who is profiting by the work done by them and the knowledge disseminated by them, and that the medical man who does not belong to his medical society is by that much a loser and less well equipped physician. The people appreciate his talks, the public press is with us, and I only need refer you to the articles appearing in the Kansas City *Star,* the Maryville paper, the Hannibal paper and the papers of other cities. By the end of the month Dr. McCormack will have visited the following places: St. Joseph, Maryville, Gallatin, Kirksville, Chillicothe, Hannibal, Moberly, Sedalia, Liberty, Kansas City, Warrensburg, Jefferson City, Higginsville, Harrisonville, Clinton, Nevada, Joplin, Aurora, Springfield, Lebanon, St. Charles and St. Louis. He has promised us two weeks next fall, during which time he will visit other counties.

To return again to the mechanical organization of the Association, I beg to urge that steps be taken to affiliate the State Board of Health with this organization after the plan in effect in Kentucky. The secretary of this Association should be the secretary of the State Board of Health, the members of which should be nominated by this Association. The far-reaching effect of such a move is self-evident. I will be glad to resign from the secretaryship of this Association in order that this may be carried out, as I regard it as a most important object to be accomplished in the next few years.

The correspondence in the office has been exceedingly heavy as the postage bills show. This was made necessary on account of the work un-

dertaken for the legislative committee. County societies and auxiliary committeemen were kept in constant touch with the stages in our legislative work. In many cases each physician in a district received personal letters and copies of pending bills. The report of the committee on public policy and legislation speaks for itself and for the effectiveness of the organization. I would recommend, in the light of our past experience, that a Bureau of Legislation be established in the office of the secretary, where records can be kept in proper form and from which an active propaganda can at any time be instituted. We should depend upon active and effective work on the part of our component societies rather than place the heavy burden upon the shoulders of a few. In each instance where the county society was alive to this work, the representative in the legislature, from that county, was correspondingly awake. With such an arrangement the work of your committee can be made most effective. When an intelligent layman actually understands what we are trying to do, he is perfectly willing to coöperate with us. This is the proper work of our component organizations.

The Missouri Society of Medical Secretaries holds its second annual meeting this afternoon. This is the most important auxiliary the Association has, for the State Association is what these men make it. The local society looks to its secretary for the enterprise and labor necessary to keep it in touch, not only with the State and the American Medical Association, but to keep it actively and progressively working. As is the secretary, so is the county society. I want to congratulate the Association on the efficiency and loyalty of these men. It has been a pleasure indeed to work with them. This society is going to make still better secretaries of them, and consequently still better county organizations. Credit for the excellent program of the secretaries organization is due Dr. Foster W. Burke, president, and Dr. Chas. W. Fassett, secretary. Every member present should hear the papers presented at their meeting. Ohio, Pennsylvania and Missouri are pioneers in the organization of their secretaries and the good it is doing is evidenced by the organization at the American Medical Association last year of the national association of state secretaries and editors, and the organization of similar societies in other states. This society should be fostered and encouraged by this body.

There has been some demand on part of our members for a permanent badge. I would recommend that we adopt one. Several designs are on exhibition at the registrar's desk. Badges can be supplied members, in permanent gold and enamel, for one dollar each. It seems to me we had better invest in a first-class permanent badge rather than spend forty or fifty dollars each year for celluloid substitutes. With these badges, purchased by those who desire them, the Association could give a simple ribbon with the date of the annual meeting printed thereon in place of the badges given now, and with about half the expense.

Another recommendation I would like to make to the House is that the exhibits be placed under the control of the editor of the JOURNAL, and that no proprietaries, unless approved by the Council of Pharmacy of the American Medical Association, be allowed to exhibit.

If the reports of the committees could be turned in a few weeks prior to the annual meeting, they could, with scarcely any trouble, be placed in print and distributed to the delegates. The delegates would have ample time to digest them and form mature opinions and plan for the best for the Association. This year we made an effort to obtain these reports without success. I recommend that the House instruct its committees to file their reports with the secretary at least four weeks

prior to the meeting and the secretary be instructed to forward same to the delegates. This will greatly facilitate our work and allow ample time for the meeting of the secretaries and council. Last year the members of the council were deprived of attending any of the scientific sessions on account of the time consumed in the House reading reports.

Respectfully submitted,

A. W. McAlester, Jr.

May 18, 1909.

REPORT OF THE COMMITTEE ON PUBLIC POLICY AND LEGISLATION.

The committee begs to report as follows: There were five duties enjoined upon this committee at the meeting of this Association in 1908, as follows:

First. The necessity of added power to the State board, so that the attendance of witnesses and the production of documents may be enforced.

Second. The amendment of the ambiguous appeal provision.

Third. The prevention of corporations from practicing medicine.

Fourth. To limit the time in which damage suits against doctors may be filed.

Fifth. The amendment of the present law defining prior registration.

All of these questions were to be submitted to the attorney employed by the committee to consider the best legal manner in which the above points should be included. There was no money appropriated to employ such attorney, and the committee wishes to express its sense of obligation to those members of the Bar Association who have aided us free of charge, viz.: Messrs. Frank Walsh and E. L. Morrison, of Kansas City; Messrs. I. V. Barth and Morton Jourdon, of St. Louis, and Mr. Silver, of Jefferson City.

There were several other matters presented to the committee for consideration during the year; for instance, the communication from Dr. Madry, of the Southwest Missouri Medical Association, demanding three laws as follows:

Sixth. More stringent laws for the collection of bills of physicians.

Seventh. Laws empowering physicians to collect from the county courts fees for attendance upon paupers.

Eighth. A new law for the punishment of physicians committing abortion.

Ninth. The National Association recommended a bill for the collection of vital and mortuary statistics and furnished a copy of a model bill.

Tenth. The dentists of the State presented a bill through their State committee for prevention of corporations practicing dentistry.

Eleventh. The nurses association presented a bill for the proper registration of trained nurses.

Twelfth. The State Board of Health asked the committee to secure the passage of another amendment to the practice act, viz: A repeal of the twenty day clause. At present a physician is allowed twenty days to practice in a new location before filing his license, and also may open an office in other counties than the one in which he may reside. A bill

was asked making it necessary for a physician to record his license in a county at the county seat before opening an office or engaging in practice in any county.

Thirteenth. A permanent secretary for the State Board of Health was asked and a secretary who should not be a member of the board of health.

In considering these bills the committee has made a new departure by meeting in joint session with the State Board of Health, who must present these bills to the legislature and recommend their passage, and the result is so satisfactory that we recommend its continuance. It is a great advantage to have at all times a perfect understanding between the officers of the State Association and the State Board of Health.

The work of the year has been arduous and results are as follows in each of the thirteen matters under consideration:

First. Added power to the State Board of Health was asked by the committee in Senate Bill 150 granting the board the power to subpœna witnesses and compel their attendance. It was passed under protest by the Senate, the lawyers declaring that Senator Allee could have anything he insisted upon, but that the bill was unconstitutional. In the House there were so many objections that although many hard fights were made to pass it, it had finally to be partially abandoned and merged with Senate Bill 334. The next committee must take up this matter as a part of next year's work. The three points to be solved are:

(a) Board cannot compel as it cannot be given power to punish for contempt.

(b) Witnesses must be paid if subpœnaed and there is no way of foretelling the expense that would follow.

(c) The accused's rights demand that he have somewhat similar power conferred.

Second. In this matter a bill was prepared, providing for a review of the evidence only. The present law required a new trial in the Circuit Court. The bill was numbered Senate Bill 334 and like Senate Bill 150 was much objected to in the Senate, though finally passed. It went to the Judiciary Committee in the House, where it was again amended after weeks of delay. On the floor of the House the two bills were worked over into one very satisfactory law providing for revocation of license; method of procedure of trial; forbidding the sending out of agents to secure patients; allowing attorney to appear for accused; providing for stenographic reports of trial; review of evidence only on writ of *certiorari,* and providing that the license stand revoked from the time of the board's unfavorable decision. This places the effective disciplinary power squarely in the board's hands. It must be carefully and wisely used and never prostituted to revengeful or jealous purposes or it will quickly be taken away by the legislature. They regard it as in a measure experimental.

In the long fight for recognition of this bill the committee feels its obligation to the county societies, without whose help it could not have been passed. In the work of preparation of new amendments in the House the skill and knowledge of Judge Johnson, of Nevada, and Mr. Cross, of Clinton County, were of especial value. And, in fact, without their hard work on the floor the bill could not have been passed. We desire that the profession shall appreciate what they have done for us.

Third. No law has been found possible to stop corporations from hiring doctors and furnishing medical attendance. This matter has been three years before the committee and may as well be dropped.

Fourth. The committee have not been able to frame a good act that will cover this requirement.

Fifth. All amendments to the wording of the Practice Act were in Senate Bill 332, which was met by violent opposition by Christian Science churches who considered they were thereby threatened. After mature deliberation the following compromise was agreed upon by the Scientists, the lawyers, the officers of the State Association and this committee:

"That the provisions of this chapter shall not apply to persons who merely practice the religious tenets of their church without pretending a knowledge of medicine or surgery. Provided that they shall obey all quarantine regulations and in regard to contagious and infectious diseases."

We regret to report that other unfavorable amendments were forced upon this bill as to Osteopathy, Mesmerism, etc., and that the bill was never passed. It outlines, however, the lines of future action probable by Christian Science churches and shows what their probable demands for legal recognition will be.

In regard to paragraphs six, seven and eight, from the Southwest Medical Association, the report of the secretary after our meeting in St. Louis, October 4, 1908, expresses the matter fully. Dr. Funkhouser wrote:

"The committee does not consider it opportune now to consider the introduction of bills, one to aid the profession in the collection of one class of bills, and another to reimburse the profession for one-half of its professional contributions to charity. The committee considers the law relating to criminal abortions recently passed to be ample and clear. An ex-judge of the Supreme Court of Missouri directed and supervised the framing of it, and the committee considers that time must elapse to judge the efficiency of the new law before attempting any change."

Ninth. The chairman attended the conference at Washington, D. C., and brought back the Vital Statistics Bill, which was passed in the Senate and House and becomes a law. Under its provisions every death and birth in the State is to be registered and reported and a physician's certificate of death or a coroner's order is required for burial. Also the central office of the registration bureau is established at the State Capitol and the secretary of the State Board of Health becomes the chief statistician. Subordinate registrars are provided for each community. By this means a correct record can be made of deaths from disease in all parts of the State, which should prove of the greatest benefit in arriving at correct conclusions in all public health matters.

Tenth. The committee feels that this is covered in item third.

Eleventh. The nurses bill has been passed, thus placing Missouri again in the front rank of states. All graduate nurses may be registered but no bar is to be placed against unregistered nurses nursing the sick.

Twelfth. The twenty-day clause was passed and becomes a law.

Thirteenth. The office of secretary of the State Board of Health is now to be filled by the election of a permanent secretary not a member of the board of health. Hereafter the secretary can always be found

at his office in Jefferson City and the records of the office are to be preserved in fire-proof vaults at the Capitol.

Five bills were passed and became laws, with this committee's help, and the assistance of the County Societies:

1. Vital Statistics Bill (new bill).
2. Revocation of license (amendment).
3. Permanent Secretary (new bill).
4. Repeal of twenty-day clause (amendment).
5. Registration of nurses (new bill).

Twenty bills were killed by active opposition, most of them in committee. In this connection I wish to call attention to the loyal work of Dr. Allee in the Senate, and Dr. Porth in the House, who, from their important positions on committee, were ever watchful for the profession. The following bills, sixteen in number, died at the hands of Dr. Porth's committee alone, as follows:

House Bills No. 23, No. 29, No. 161, No. 178, No. 336, No. 443, No. 470, No. 587, No. 411, No. 770, No. 661, No. 732, No. 599, No. 1126, No. 949 and No. 1118.

No adverse legislation has been placed upon the statute books.

HERMAN E. PEARSE, M. D., Chairman;
R. M. FUNKHOUSER,
F. R. NEWBERRY.

REPORT OF THE COMMITTEE ON MEDICAL EDUCATION.

In presenting its report, your Committee on Medical Education desires to impress upon this Association—individually and collectively—the readily proven fact that the chief function of all our medical societies and associations has been, and is, the securing and adoption of a satisfactory standard of medical education. In the original call of the Medical Society of the State of New York, which led to the formation, more than sixty years ago, of the great American Medical Association, appear the following preamble and resolutions:

> "WHEREAS, It is believed that a national convention would be conducive to the elevation of the standard of medical education in the United States; and
>
> "WHEREAS, There is no mode of accomplishing so desirable an object without concert of action on the part of the medical societies, colleges and institutions of all the states, therefore be it
>
> "RESOLVED, That the New York State Medical Society earnestly recommends a national convention of delegates from medical societies and colleges in the whole Union to convene in the City of New York on the first Monday in May, 1846, for the purpose of adopting some concerted action on the subject set forth in the foregoing preamble."

These delegates met and adopted the following resolutions, which resulted in the formation of the American Medical Association:

> 1st. That it is expedient for the medical profession of the United States to institute a National Medical Association.
>
> 2d. That it is desirable that a uniform and elevated standard of requirements for the degree of M. D. should be adopted by all the medical schools in the United States.

3d. That it is desirable that young men, before being received as students of medicine, should have acquired a suitable preliminary education.

We see, then, that the American Medical Association was founded with medical education and its advancement as its paramount issue. Through more than half a century did the original association struggle with this question with but feeble success. It remained for the reorganized American Medical Association to take hold of the subject, and by method and energetic action accomplish most gratifying results.

At the annual meeting in 1904, the American Medical Association adopted a by-law authorizing the appointment of a permanent Council on Medical Education and outlining its duties. Permanent offices were given this Council in the Association building in Chicago, and a liberal allowance voted for carrying on its work. This Council has been in existence five years and has accomplished "wonders."

Besides special meetings, it holds an annual conference in Chicago to which are invited delegates from each state (appointed by the state governor), delegates from state medical associations, from state examining boards, from the government service, from college and medical associations and from medical and liberal arts colleges.

At these annual meetings, papers upon medical education and collateral subjects are read and discussed by leading educators of the country and the various delegates present. From the knowledge gleaned in this way, and from many other sources, this medical council makes its annual report to the American Medical Association. Four of these reports are now before your committee, and contain so much of interest and importance to the medical profession, as well as to the public at large, that their perusal and study is urgently recommended to every individual member of this Association.

These reports are veritable bureaus of information on medical education, state laws, and the work and standing of the 161 medical colleges of the United States.

With the fear of being wearisome, but with a profound sense of the importance to our State Association and its members, of the subject matter contained, your committee desires to call attention to some features of these reports.

At the 1905 meeting of the American Medical Association the council on medical education reported the following minimum requirements as prerequisites to the practice of medicine:

1st. Preliminary requirements to be an accredited high school education, or its equivalent, such as would admit the student to one of our recognized universities.

2d. Preliminary requirements to be passed on by a state official, such as the superintendent of public instruction, and not by an official of the medical college.

3d. A medical education in a medical college having four years of not less than 30 weeks each year of 30 hours a week of actual work.

4th. Graduation from an approved medical college required to entitle the candidate to an examination before a state examining board.

5th. The passing of a satisfactory examination before a state examining board.

The council also recommended that, in addition to the above minimum requirements, as soon as practicable, another year be added, devoted

to the study of physics, chemistry, biology and one or two modern languages. This additional year's studies to be taken in a medical college or a college of liberal arts. The report of the council for last year (1908) states that a large majority of the acceptable medical colleges of the United States have adopted this additional year's preliminary work to become effective in 1910, which gives them a curriculum equal to that of the medical schools of Germany—and other European countries.

At this same meeting, upon the recommendation of the Council on Medical Education, the American Medical Association adopted as the "ideal standard," to be aimed at for the degree of doctor of medicine, the following:

(A) A preliminary education sufficient to enable the candidate to enter one of our recognized universities.

(B) A five-year medical course, the first year of which should be devoted to physics, chemistry, biology and one or two modern languages.

Of the four years in pure medical work, the first two should be spent in laboratories of anatomy, physiology, pathology, pharmacology, etc., and the last two in close contact with patients in dispensaries and hospitals in the study of medicine, surgery, obstetrics and the specialties.

(C) A sixth year as an interne in a hospital or dispensary should then complete the medical course.

The above is the general scheme adopted by the American Medical Association for acquiring the degree of doctor of medicine. As the American Medical Association has no legal power to enforce a standard of medical education, the scheme comes to us endorsed with its acceptance and recommendation. It now rests upon the medical profession, through their state and county societies and state examining boards, to see that the necessary state laws are enacted to carry these recommendations into effect. Thanks to our committee on legislation and medical education, and especially to the energetic and efficient work of our State Board of Health, the forty-fourth general assembly of the State of Missouri enacted laws requiring all applicants for license to practice medicine in this state to furnish satisfactory evidence of an accredited high school education, a diploma from a reputable medical college and to pass a satisfactory examination before the State Board of Health. It provides also for reciprocity, and gives the board authority to inspect medical colleges, and to refuse recognition to disreputable schools. From the board's report of 1908 we learn that of the twelve medical schools of the State, they found but two or three that were fully equipped to teach modern medicine, as set forth in their minimum requirements, "but upon notice of their deficiencies, they all met the board's requirements." It is also gratifying to know that at least three of our State medical schools, along with over fifty others in the United States, will, after 1910, require an additional year devoted to the study of physics, chemistry, biology and one or two modern languages, *i. e.*, a five-year medical course, for graduation.

The second annual report of the Council on Medical Education was devoted to an investigation of the standing of the medical colleges of the United States, as shown by the percentage of successes and failures of their graduates before state examining boards.

Speaking of the large per cent. of failures of the graduates of certain schools, the president of the council says: "It is evident from a

study of the medical schools in this country, and their work, that there are five specially rotten spots which are responsible for most of the bad medical instruction. They are Illinois, Missouri, Maryland, Kentucky and Tennessee." The president further says: "That the principal cause for this bad work is found in the existence of medical schools which are conducted for profit, and profit is only possible where the college fails to provide proper facilities for laboratory and clinical training."

We know that there are many most excellent physicians connected with some of these schools in our State, and hope that the publicity of the results of the examining boards will spur them up to remedy the evil. This may be accomplished by merging the schools together, as has been done in several states during the past year—viz., Kentucky, Ohio, Iowa and California, by securing university connections and by endowments.

During the past two years, in addition to continued work on the lines of college curricula and standing, the medical council has devoted its efforts more especially to personal inspection of all the medical colleges in the United States. As a result they reported that of the 161 schools examined, 83 (50%) were found to be of an acceptable grade and 32 (20%) were regarded as worthless, leaving 47 (30%) which, with improvements, would fall into the acceptable class. These findings were reported to all state boards, with the suggestion that they make personal inspection of every school within the state and refuse recognition to those which are deficient in equipment and without qualified instructors to teach scientific medicine. As stated in a former paragraph, the Missouri State Board is legally authorized to carry out this inspection in this state, so that working in conjunction with the Council on Education of the American Medical Association, which personally inspects and reports upon all the medical schools of the United States, the unsatisfactory schools are readily "spotted."

Except in a few states, any body of men, by paying a stated fee, can incorporate as a college or university and grant all kinds of degrees. Besides the three or four legally recognized schools of medicine, a recent writer mentions thirty or more nondescript fads in a long procession, demanding legal recognition and representation on examining boards. Representatives of these fads are constantly knocking at the doors of our legislatures for special privileges, which are too often granted, and thus untrained pseudo-doctors are legally admitted to practice upon a gullible and unsuspecting public. The only successful defense against this sort of practice is, as has been done in a few states, to fix a high educational standard such as is demanded for a regular physician, to which all who wish to secure a license to practice medicine must comply. In this simple way has the osteopath and many other "pathies" been prevented from practicing in Massachusetts, which state does not even require a diploma for the practice of medicine.

The outlook for an improved medical education and a higher standard for the practice of medicine is brightening. The advances made during the past year were epitomized by the Secretary of the Council on Medical Education, at its recent April meeting at Chicago, as follows:

(a) Several state legislatures have made large appropriations for the opening of good high schools, and several organizations are actively working for the standardization of our secondary schools, colleges and universities.

(b) Twenty-nine medical schools by 1910 will be requiring two or more years for liberal arts college work for admission.

(c) At least fifty medical schools by 1910 will be requiring one or more years of liberal arts college work for admission.

(d) Practically all of the medical schools referred to expect to require preliminary work in college on physics, chemistry and biology, and a reading knowledge of German and French.

(e) Six state medical examining boards have increased their requirements of preliminary education to one or two years of work in a college of liberal arts.

(f) Five important mergers have been completed during the year, replacing nine medical colleges by four stronger ones.

(g) Teaching medicine at night has been abandoned by three schools, and only four remain—three at Chicago and one at St. Louis.

(h) Practical examinations, in addition to written, have been inaugurated by at least two examining boards, those of Massachusetts and Ohio.

(i) One more state now requires that all applicants be graduates in medicine, leaving only five which license non-graduates.

(j) Six state boards have provided for a two-part examination, whereby applicants may take examinations in some of the subjects at the end of their sophomore year.

Based upon the contents of this report, your committee would recommend the endorsement by the Missouri State Association of the scheme for medical education adopted and recommended by the American Medical Association.

Further, that the Missouri State Association endorse the personal inspection of all medical colleges of this state and the United States, as so beneficially carried on during the past two years by our State Board of Health and by the Council on Education of American Medical Association. Only by such examination of the college equipment, of its clinical and hospital facilities, of its faculty including men especially trained to teach the fundamental branches, etc., can a medical school be graded as doing satisfactory or unsatisfactory work. There is no longer any demand for the "cross-road" doctor, and consequently no excuse for the existence of a medical college giving an unsatisfactory course in medicine. As pointedly expressed by President Faunce, of Brown University: "One physician of scientific method is worth more to a community than twenty who are guessing and groping. One physician who can assist in purifying the water supply, in discovering the cause of an epidemic, in introducing better sanitation and hygiene, in preventing rather than curing disease, is of more value than a hundred who deal only with symptoms and surfaces. We do not need more doctors, but we need more doctor."

As Missouri has the enviable record of being the second state in the Union in the number of medical colleges—eleven—and, as reported by the State Board of Health, the majority were found, upon inspection in 1908, as lacking in facilities for teaching scientific medicine, your committee recommends, wherever possible, the uniting of these colleges for better educational work.

We urge the members of the Missouri State Medical Association to encourage the movement for higher standards of medical education by advising prospective students to attend those schools which meet those standards. The statistics (which are published in the JOURNAL of the American Medical Association) showing the results of examinations of the graduates of the various medical schools before the various state

examining and licensing boards, clearly indicate the deficient training received in the low-grade schools.

From investigations by your committee it appears that the present laws of Missouri, when strictly enforced, are favorable to the minimum requirements of advanced medical education. In the near future we hope to see our State Board of Health *empowered to determine* the matter of preliminary education and medical curriculum, and not limited in this regard to statute as at present.

A fifth year, devoted to the study of chemistry, physics, biology and the modern languages, should be made compulsory.

Since medical education does not end with graduation from a medical school, but should continue throughout life, your committee would emphasize the necessity for post-graduate study. For the benefit of those who are unable frequently to visit the great clinical centers we endorse the course of post-graduate study advocated by Drs. McCormack and Blackburn, and approved at the meeting of the American Medical Association in 1907. For this purpose a post-graduate club should be formed by every county society in the state.

The present law governing the practice of midwifery is regarded by your committee as insufficient and wholly inadequate. Under its provisions, persons are granted license to practice midwifery in this state, after passing a satisfactory examination before the State Board of Health and registering with the county clerk. There is no preliminary education required; no certificate as to moral character; no diploma; no supervision of schools of midwifery; no efficient supervision of the midwife after licensure. True, she is prohibited by the statute from practicing medicine and surgery, but she may violate this law or any other law, such as committing criminal abortion, without the licensing board having the power to revoke her license. When we consider how important a branch of medicine she practices and how large a proportion of people patronize her (52% of obstetrical cases in the City of St. Louis), the necessity of more adequate laws becomes apparent.

Your committee, then, would recommend the reference of this part of the report to the Committee on Public Policy and Legislation, and through it to the State Board of Health, whose legal duty it is to recommend proper legislation on medical and sanitary matters to the state legislature.

In order to do the best work the Committee on Medical Education of this Association should be of a permanent nature, like the Council on Medical Education of the American Medical Association. Your committee would, therefore, strongly recommend that the by-laws be changed so that the members shall be elected for three years—one member retiring each year.

B. M. Hypes, Chairman;
C. M. Jackson,
O. B. Campbell.

REPORT OF COMMITTEE ON TUBERCULOSIS.

Mr. President and Gentlemen:

Your committee on tuberculosis assumes that the duty assigned them is to make a report on what is being done in our State for the prevention and cure of tuberculosis, together with such recommendations along this line as the committee may have to offer, rather than to at-

tempt a statistical report on the prevalence of the disease or a report on the therapeutics of the same.

In taking up this subject we will consider, first, what has been done officially by the State, as, for example, chiefly through its State Sanatorium for Incipient Tuberculosis at Mt. Vernon; second, what has been done in the City of St. Louis, which is a great deal and greatly to the credit of the medical profession and of the municipal government of that city; and third, what has been done in the rest of the State, which is very little and not much to the credit of anyone.

The first biennial report of the Managers of the State Sanatorium for the Treatment of Incipient Pulmonary Tuberculosis to the Forty-fifth General Assembly of the State of Missouri, dated January, 1909, sets forth, simply and eloquently, the work of establishing and conducting this institution.

The first patient was admitted August 17th, 1907. Up to the first of January, 1908, twenty patients had been admitted and six discharged. During the year 1908 one hundred and sixteen were received and sixty-one discharged, making a total, for the period of a little over sixteen months, of one hundred and thirty-five admitted and sixty-seven discharged. As appears from the detailed report of cases made by the superintendent, there have been only four deaths at the sanatorium and four cases that returned home are known to have died. This is a very good record when we realize that a considerable number of those admitted are far from being incipient cases, but are, on the contrary, pretty well advanced; and considering also that during the past year they have gone through with a mild epidemic of typhoid fever at the Sanatorium.

The superintendent, Dr. O. H. Brown, informs us that although the legitimate capacity of the two villas for patients is only twenty-four apiece, yet the institution is, at present, caring for about eighty patients. This is done by using the library-reception rooms of the villas as bed-rooms, each accommodating from six to ten beds, and otherwise crowding things. The average period during which patients remain at the sanatorium is six months, so that twice the number accommodated at any one time could be cared for during the year.

Speaking of the results of treatment, Dr. Brown, in his report, says:

> "I believe it can with perfect fairness be said that eighty or ninety, or perhaps a hundred, of the one hundred and thirty-five cases had under treatment, are now either arrested cases, or cases well under way to arrest, and a fair per cent. of these cases give promise of developing into cured cases. Many of these were in the sanatorium only a few weeks, but they made such improvement and received such encouragement as to cause them to continue to improve, even though they found it necessary to go to their homes or elsewhere. A number of the arrested cases are still in the sanatorium, hoping and trying to develop into cured cases. Thirty-six of the seventy discharged left of their own volition, and considerably before it was thought best that they should go. In most of these cases the paramount reason for leaving had either to do with finance or was because of homesickness and discontent. In some of these instances the patients have done better at home than they did at the sanatorium,—they first, of course, had become familiar with 'the cure.' It is indeed gratifying to report that all but three or four of the thirty-six did well in spite of their premature departure."

This is a most creditable showing, the value of which can be appreciated by none better than by the physicians of the State. Great credit is due to the Board of Managers who have so freely and generously

given their time and thought to this beneficent undertaking. Their names are: Dr. J. L. Eaton, of Bismarck, President; Hon. S. H. Minor, of Aurora, Vice-President; Hon. W. L. Gupton, of Montgomery City, Secretary; Hon. W. D. Craig, of Galena, Auditor; and Dr. Wm. Porter, of St. Louis, Medical Director.

Dr. Orville Harry Brown, Superintendent and Physician in Charge, as well as his esteemed wife, who for some time filled the place of Matron, without compensation, deserve the highest praise for the faithful and intelligent service rendered, to which, more than to any other one factor, is due the success of the institution.

The Board of Managers have applied to the Sixty-fifth General Assembly of the State for an appropriation of $364,500 for the next biennium, as follows:

For buildings, sewer system, heating, laundry, etc.	$297,500.00
Salaries	17,000.00
Maintenance (two years)	50,000.00
Total	$364,500.00

This seems, at the first glance, quite a large sum, but it is nothing as compared to the good to be accomplished and the money to be saved to the State in the health and the working power of its population; and it is the earnest hope of your committee that before this report is read, the appropriation asked for will have been granted.

What this State needs, in order to make a respectable showing among its sister States, is not only the Sanatorium for Incipient Tuberculosis at Mt. Vernon increased to fourfold its present capacity, but municipal sanatoria and hospitals, respectively for the incipient and advanced cases, for at least the five largest cities of the State, maintained by these cities alone; and not less than four State hospitals for advanced cases, suitably located, for the admission of patients from the various counties of the State, exclusive of the cities above mentioned, on the same general plan on which patients are now admitted at Mt. Vernon. It would be a question for consideration whether the price charged the various counties for the care of their patients should not be a sum sufficient fully to cover the cost of such care.

New York, Pennsylvania, and Massachusetts, each of them, maintain several sanatoria and hospitals for the care of tuberculosis in its various stages, supported by the State, besides others maintained by municipalities. Maryland is well to the front in this work; and even little Rhode Island has a large and well-equipped tuberculosis sanatorium. In the *Journal of the American Medical Association* for April 10th, 1909, we find the statement that the committee on appropriations of the Pennsylvania House of Representatives had recommended an appropriation amounting to $1,508,500.00 for the various hospitals within the State which are not, strictly speaking, State institutions, three of them being hospitals connected with private medical colleges. This recognition of the fact that even private institutions of this sort are doing the work of the State, is worthy of note, and is an example that should be followed. Western States, our own among the number, are notably deficient in the recognition of this principle, and it should be the work of this Association, as a body, and of its membership as individuals, to impress this truth upon our Executive and our legislators.

Turning now with pride and pleasure to the doings of our great metropolis, St. Louis, we find the following to report: In March, 1908,

an ordinance was passed by the Municipal Assembly of the City of St. Louis, authorizing the mayor to appoint a commission of nine persons "to investigate the prevalence of tuberculosis in St. Louis, and to report to the Municipal Assembly its findings, together with recommendations of measures for the limitations of the disease."

This Commission, with the exception of its secretary, was to serve without compensation. The sum of $2,500.00 was given them for the work. The Commission went to work in earnest to investigate and report the conditions found and to suggest means for relief. The very interesting and valuable results of their investigations are to be found in their printed report to the Municipal Assembly, dated February, 1909, which is evidently the result of an immense amount of very careful, painstaking labor. The recommendations made by the Commission were:

"*First*—For securing the re-opening of the Emergency Hospital building on the southwest corner of Fourteenth and O'Fallon Streets, with a capacity of 200 beds, as a hospital for the care of advanced cases."

"*Second*—For securing authority for the Health Commissioner to enlarge the work of the City Tuberculosis Dispensary, and for the establishment of branch clinics for the treatment of tuberculosis, and in securing authority to employ not more than nine visiting nurses to visit consumptive persons."

"*Third*—For securing the conversion of the present Smallpox and Quarantine Hospital, with a capacity of 200 beds, into a Tuberculosis Sanatorium, and in connection therewith the establishment of a hospital for tuberculous children and a farm for convalescent patients."

"*Fourth*—For securing a continuance of the Commission's work and providing for the dissemination of knowledge concerning tuberculosis and its prevalence, by the establishment of a Second Tuberculosis Commission for a period of five years, with an appropriation of $25,000.00 for the first year's work."

We regret to say that, although all of these recommendations were approved by the Municipal Assembly and were embraced in two ordinances passed by the Assembly, the ordinance embracing the first three was vetoed by the Mayor, only the fourth recommendation meeting with his approval and thus becoming the law.

No endorsement of the work of the Commission, however, could be more eloquent than the fact that the city government was moved to continue the Commission for a period of five years, and to appropriate the sum of $25,000.00 for the work of the next fiscal year. The names of these Commissioners well deserve to be recorded. They are as follows: Dr. Wm. Porter, Chairman; J. H. Lynch, Vice-Chairman; Rev. Timothy Dempsey, Edward F. Goltra, Rev. B. T. Kemerer, John F. Lee, Daniel C. Nugent, Robert J. Newton, Secretary.

Outside of St. Louis, so far as your committee can learn, but little has been accomplished. In a pamphlet entitled "What Missouri Is Doing," prepared by the Missouri Committee of the International Tuberculosis Congress, which met at Washington, D. C., in September, 1908, it was reported that branches of the Association for the Prevention and Relief of Tuberculosis had been organized in eleven counties. Since that time one or two more have been reported as organized. Your committee has addressed letters of inquiry to eleven of these counties. Six responded, saying that practically nothing had been done during the year. It is fair to draw the same conclusion with regard to those not heard from. In making this statement your committee does not wish

to appear in the light of censuring those who organized such county associations and have seemed to do nothing with them since. We recognize the fact that it is very hard to know what to attempt in country communities. Perhaps nothing better can be done than to hold one or two public meetings a year, well advertised, securing a capable speaker from abroad, if possible a stereopticon exhibit also, and so keeping up the campaign of education. The larger cities—St. Louis, Kansas City, St. Joseph, Springfield, and Sedalia—have an evident and immediate duty in the way of securing and *enforcing* legislation against spitting, the registration of cases of tuberculosis, the instruction of patients and their families in the means to be used to protect others from infection, the disinfection of habitations after a death from tuberculosis or after a person, a victim of the disease, has vacated such habitation, and the establishment of municipal tuberculosis hospitals and sanatoria. The smaller cities and towns have the same work to perform with the single exception that in their case it would be impossible to maintain the hospitals and sanatoria above mentioned. For the care of such of their patients as can be sent to a public institution, those State hospitals should be maintained which were spoken of earlier in this report.

Before passing to the modest showing to be made by Kansas City in this work, we must mention the "Tuberculosis Week" given in Jefferson City, March 8th to 12th, inclusive, under the auspices of the Missouri Association for the Relief and Control of Tuberculosis and the Cole County Anti-Tuberculosis Association. The traveling tuberculosis exhibit of the Saint Louis Association was on exhibition in the Library building for five days. Eleven meetings were held for the instruction of various portions of the community, Dr. George Homan, Dr. Wm. Porter, Dr. Frances L. Bishop, and Rev. B. T. Kemerer, of St. Louis, taking part, the whole being under the management of Mr. Robert J. Newton, the able and efficient secretary of the Association. On Thursday evening a meeting was held in the hall of the House of Representatives, on the invitation of that body, and amongst others Governor Herbert S. Hadley spoke with great effect.

It is well worthy of note that Governor Hadley has recently invited the State Board of Health to visit and inspect the State Penitentiary with the purpose of recommending such changes as may be needful to prevent, so far as possible, the development of tuberculosis, and generally to promote the good health of the inmates. This report has been made and its recommendations are to be carried out, greatly to the credit of the administration and of the State.

In Kansas City a city ordinance has been so amended as to put tuberculosis on the list of diseases which must be reported by physicians and householders to the health officer; and provision is made for the disinfection of rooms or houses in which tuberculosis patients have died, or which have been vacated by such persons. This ordinance is being complied with to a moderate degree, and undoubtedly will be more vigorously enforced hereafter. The nuisance, and menace to health, of spitting in the street cars has been largely suppressed through agitation on the subject by the daily papers and by the plan adopted of having street-car conductors hand, to any one who is seen thus to violate the ordinance, a red card informing him of his liability to arrest and punishment for such infraction of the law. A free tuberculosis dispensary service, on a small scale, is being maintained by the Post Graduate Medical College and is accomplishing good.

The Visiting Nurse Association of the city is paying special attention to the care and instruction of tuberculosis patients and their friends. With funds, partly from their own treasury and partly from that of the Provident Association, they provide suitable food for those needing it, help them to arrange for out-door sleeping, and otherwise endeavor to guide them in caring for themselves and protecting those about them. Their services are most valuable and effective.

At a special election to be held in May to vote on the issuing of bonds by the city for various purposes, one of the items approved by the committee and to be voted on is for $20,000.00 for the beginning of a tuberculosis sanatorium on ground owned by the city, about seven miles from its center. If the vote on this bond issue is in the affirmative, work will be begun as soon as funds are available. In fact, work on the clearing and grading of the site and the getting out of rock, which is found on the ground, has already been begun; so that the prospects for the final consummation of the project seem quite hopeful.

In February last, the Jackson County Society for the Prevention and Relief of Tuberculosis was fortunate enough to secure the presence in Kansas City, for two weeks, of one of the exhibits of the National Association which had been shown at various points in Kansas and Nebraska. The use of a fine room on the first floor of the Scarritt Building, most centrally located, was kindly donated by the owners. Lectures and stereopticon exhibitions were held every night; the various charitable organizations of the city and the labor unions taking turns in furnishing the program. Thousands visited the exhibit daily and the result of the enterprise was a prodigious stimulation of interest and great diffusion of knowledge on the subject under consideration.

In conclusion your committee recommends:

First—That the Missouri State Medical Association hereby cordially approves of the work of the State Sanatorium for Incipient Tuberculosis and would, through its members, urge upon our legislators the generous support of that institution.

Second—That a committee on tuberculosis, to be appointed for the ensuing year, be instructed to communicate with prominent members of the profession in the leading cities of the State, urging upon them the importance of such anti-tuberculosis regulations and provisions as are recommended in this report and exhorting them, on behalf of the Association, to take active steps towards the securing of such legislation.

Third—That the aforesaid committee be authorized to draw upon the treasurer of the Association for such funds as may be needed in carrying out these instructions.

All of which is respectfully submitted.

E. W. Schauffler, Chairman.
George Homan,
J. R. Lemen,
W. E. McKinley,
J. R. Boyd,

Committee.

TREASURER'S ACCOUNT WITH THE MISSOURI STATE MEDICAL ASSOCIATION, 1908-9.

CASH ACCOUNT.

DISBURSEMENTS.

1908.			
May	20.	Dr. Coffelt, traveling expenses	$ 12.00
"	20.	Dr. McKinley, traveling expenses	12.00
"	20.	Dr. Dallas, traveling expenses	5.00
"	20.	Dr. Miller, traveling expenses	13.05
"	20.	Dr. J. D. Brummall, traveling expenses	12.00
"	20.	Dr. Buchanan, traveling expenses	12.13
"	20.	Dr. Snyder, traveling expenses	4.50
"	20.	Dr. J. Franklin Welch, postage, express, stenog. salary	100.00
"	20.	Dr. Edith Strong, reporting proceedings	40.00
"	27.	Dr. Coffelt, bal. on expense Springfield meeting	103.05
"	27.	Whitehead-Hogg Co., badges	24.30
"	27.	Hailman Printing Co., badges	2.25
"	30.	Dr. E. J. Goodwin, expense of Com. Sci. Work	122.43
June	2,	Dr. R. O. Cross	34.62
"	4.	Dr. A. W. McAlester, salary, June, '08	50.00
"	15.	J. F. Harris, P. M., K. C., envelopes, etc.	53.28
"	15.	J. M. Dunn, agent Bond Co. (treasurer's bond)	20.00
"	23.	Peoples Bank of Salisbury, on deposit	2,000.00
"	24.	Dr. E. J. Goodwin, salary April 18 to June 18	200.00
"	24.	Interstate Med. Journal Co., printing May Journal	247.00
"	24.	Dr. G. Ettmueller, traveling expenses	10.00
"	24.	Hailman Printing Co.	2.50
"	26.	Hailman Printing Co.	4.50
"	27.	Interstate Med. Journal Co., alterations	11.55
July	6.	Dr. A. W. McAlester, salary July, '08	50.00
"	6.	Dr. Edith Strong, reporting proceedings	.60.00
"	20.	Mo. Embossing Co.	46.00
"	20.	A. C. Ketring, reporting Surgical Section	75.00
"	20.	Interstate Med. Journal Co., printing June Journal	254.10
"	24.	Dr. Goodwin, salary June 18 to July 18,'08	100.00
Aug.	5.	Dr. A. W. McAlester, salary Aug., '08	50.00
"	8.	Interstate Med. Journal Co., printing July Journal	109.30
"	22.	Dr. Goodwin	27.34
"	22.	Dr. Goodwin, salary July 18 to Aug. 18	100.00
Sept.	4.	Hardman, letterheads	2.70
"	4.	Dr. A. W. McAlester, salary Sept., '08	50.00
"	17.	Interstate Med. Journal Co., printing Aug. Journal	118.90
Oct.	1.	Hailman Print. Co., cards	$ 6.60
"	1.	Embossing Co	10.00
"	1.	Dr. A. W. McAlester, salary Sept., '08	50.00
"	1.	Dr. Goodwin, salary Aug. 18 to Sept. 18,'08	100.00
Nov.	7.	Dr. A. W. McAlester, salary Nov., '08	50.00
"	7.	Schooley St. Co	7.20
"	7.	Union Bank Note Co.	52.50
"	26.	Dr. Goodwin, salary Oct. 18 to Nov. 18, '08	100.00
"	26.	Interstate Med. Journal Co., printing Oct. Journal	124.05
"	30.	Hailman Print. Co.	101.23
Dec.	9.	Dr. Goodwin, salary Sept. 18 to Oct. 18,'08	100.00
"	9.	Interstate Med. Journal Co., printing Sept. Journal	116.05
"	12.	Dr. A. W. McAlester, salary Dec., '08	50.00
"	22.	Dr. Goodwin, salary Nov. 18 to Dec. 18, '08	100.00
"	22.	Interstate Med. Journal Co., printing Nov. Journal	152.15
1909.			
Jan.	12.	Schooley St. Co	3.05
"	12.	Dr. A. W. McAlester, salary Jan., '09	50.00
"	29.	Dr. H. E. Pearse, traveling expenses	33.75
"	29.	Dr. Goodwin, salary Dec. 18 to Jan. 18, '09	100.00
"	29.	Interstate Med. Journal Co., printing Dec. Journal	157.10
Feb.	3.	Dr. A. W. McAlester, salary Feb., '09	50.00
"	16.	Robert Keith & Co.	73.00
"	22.	Fleming Print. Co.	68.50
"	22.	Interstate Med. Journal Co., printing Jan. Journal, '09	159.40
"	25.	Dr. H. E. Pearse, traveling expenses to Washington	92.75
"	25.	Dr. Goodwin, salary Jan. 18 to Feb. 18, '08	100.00
Mch.	11.	Dr. A. W. McAlester, salary March, '09	50.00
"	17.	National Add. Co.	2.45
"	22.	Interstate Med. Journal Co., printing Feb. Journal	138.85
"	23.	Dr. Goodwin, salary Feb. 18 to March 18, '09	100.00
"	29.	J. H. Harris, P. M., K. C.	21.44
April	7.	Dr. A. W. McAlester, salary April, '09	50.00
"	16.	Hailman Print. Co.	17.00
"	16.	Schooley Co	2.15
"	23.	Dr. Goodwin, salary March 18 to April 18	100.00
"	23.	Interstate Med. Journal Co., printing March Journal	124.00
May	8.	Dr. H. E. Pearse, business to Jefferson City	55.26
"	8.	Van Dorston, carbon sheet	2.00

1909.			
May	8.	Dr. T. M. McLemore. Nose and Throat Program.	$ 11.00
"	13.	Dr. A. W. McAlester, salary May, '09, etc.	52.15
			$ 6,874.33
May	15.	By balance.....	7,217.94
			$14,092.27

J. FRANKLIN WELCH,
Treasurer.

RECEIPTS.

May	15.	Amt. cash on hand..	$ 6,903.50
June	10.	Excess payment, Dr. Boyd.	2.50
"	20.	Dr. E. J. Goodwin, Sub. for Journal....	1.00
Jan.	2.	Dr. E. J. Goodwin, Sub. for Journal....	2.00
June	23.	Transferred from Savings Bank to Peoples Bank.....	2,000.00
May	15.	Interest on daily bal.. Peoples Bank, 3%.	53.65
"	15.	Interest on daily bal., Savings Bank, 3%.	91.37

Adair County	38.00
Andrew County	14.00
Atchison County	28.00
Audrain County	40.00
Barry County	36.00
Barton County	26.00
Bates County	66.00
Benton County	32.00
Bollinger County	.....
Boon County	50.00
Buchanan County	176.00
Butler County	24.00
Caldwell County	48.00
Callaway County	42.00
Camden County	26.00
Cape Girardeau County	54.00
Carroll County	46.00
Carter-Shannon County	14.00
Cass County	56.00
Cedar County	14.00
Chariton County	56.00
Christian County	16.00
Clark County	12.00
Clay County	50.00
Clinton County	24.00
Cole County	28.00
Cooper County	28.00
Crawford County	.....
Dade County	.....
Dallas County	.....
Daviess County	26.00
DeKalb County	16.00
Dent County	16.00
Douglass County	.....
Dunklin County	16.00
Franklin County	50.00
Gasconade County	25.00
Gentry County	20.00
Green County	112.00
Grundy County	28.00
Harrison County	28.00
Henry County	64.00
Hickory County	.....
Holt County	36.00
Howard County	28.00
Howell County	$ 30.00
Jackson County	566.00
Iron County	8.00
Jasper County	66.00
Jefferson County	22.00
Johnson County	48.00
Knox County	6.00
Laclede County	28.00
Lafayette County	48.00
Lawrence-Stone County	56.00
Lewis County	22.00
Lincoln County	.....
Linn County	80.00
Livingston County	40.00
McDonald County	.....
Macon County	40.00
Madison County	30.00
Marries County	.....
Marion County	48.00
Mercer County	10.00
Miller County	26.00
Mississippi County	30.00
Moniteau County	46.00
Monroe County	44.00
Montgomery County	22.00
Morgan County	10.00
New Madrid County	.....
Newton County	.....
Nodaway County	63.00
Oregon County	.....
Osage County	.....
Ozark County	.....
Pemiscott County	16.00
Perry County	.....
Pettis County	70.00
Phelps County	20.00
Pike County	40.00
Platte County	32.00
Polk County	38.00
Pulaski County	24.00
Putnam County	12.00
Ralls County	20.25
Randolph County	42.00
Ray County	44.00
Reynolds County	.....
Ripley County	10.00
St. Charles County	32.00
St. Clair County	16.00
Ste. Genevieve County	26.00
St. Francois County	24.00
St. Louis County	78.00
St. Louis, M. S.	1,288.00
Saline County	30.00
Schuyler County	14.00
Scotland County	14.00
Scott County	42.00
Shannon County	.....
Shebly County	36.00
Stoddard County	38.00
Stone County	.....
Sullivan County	22.00
Taney County	8.00
Texas County	.....
Vernon County	58.00
Warren County	.....
Washington County	.....
Wayne County	.....
Webster County	34.00
Worth County	12.00
	$14,092.27
May 15. To balance.....	$ 7,217.94

J. FRANKLIN WELCH,
Treasurer.

JOURNAL MISSOURI STATE MEDICAL ASSOCIATION

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ORIGINAL ARTICLES

THE DIAGNOSTIC VALUE OF THE SYSTOLIC MURMUR AT THE APEX OF THE HEART.*

By Frederick W. Froehling, M. D., Kansas City, Mo.

In my practice I have seen a goodly number of cases in which the diagnosis of mitral insufficiency had been erroneously made by physicians, and often competent ones at that. In nearly all of these cases the diagnosis of an organic heart lesion had caused a great deal of anxiety to the patient as well as to his family. A few of these cases turned out to be a real torment to me, even after I had assured the patient and the family that there was no cause for worry, and that the so-called organic heart failure was only an anæmic one. In one case, for instance, a boy of fourteen had gone through a spell of typhoid fever. After he recuperated, the attending physician told the mother that her only son had a mitral insufficiency and would never be a strong man. The mother, a widow, was horrified at the idea that her favorite child should be obliged to go through life as an invalid, and perhaps even be taken away at an early age. This happened in a university town where the lady was educating her family. About a month after this verdict was pronounced, the mother brought the boy to me for examination. I found an absolutely normal heart, as far as size was concerned. The heart sounds were all clear, and only when the boy was in a recumbent position could I hear a faint systolic murmur at the apex. The boy was of a very nervous temperament, and had a pulse rate ranging from ninety to one hundred and thirty. I examined him over and over again at different times, and all my assurance that there was no organic heart

*Read in the Medical Section, Fifty-second Annual Meeting Missouri State Medical Association, Jefferson City, May, 1909.

lesion amounted to nothing. The mother worried herself and the boy nearly to death. The poor fellow could hardly take a step without being reminded by his mother that he ought to be careful. Under these circumstances the nervous condition grew worse and the pulse rate increased. Naturally, the anxiety of the mother grew worse also. Several times a week I had to thresh over the same reasons why the affection was not an organic one. The mother, who had traveled extensively in Europe, asked me at last about the advisability of taking her son to Bad Nauheim, Germany, the famous resort for heart failure patients. I gladly took up this suggestion, and mother and son went to Europe and spent six months in Nauheim and other German cities. In every city some medical celebrities were consulted who, without exception, confirmed my diagnosis, and even after returning home the lady was still not convinced and only when, on my suggestion, mother and son separated, giving the boy an opportunity to develop into a strong young man, did the mother see how unnecessary all her anxiety had been. The physician who had treated the boy during the attack of typhoid fever, had correctly heard a systolic murmur at the apex, but had taken only this physical sign into consideration and hence had made his error. It was the same way with all the cases of this kind which I have seen. The systolic murmur alone was sufficient for the respective physicians to make the diagnosis. As this mistake is a such a common one, I deem it timely that the diagnostic value of the systolic murmur at the apex should be discussed. My paper, therefore, has its origin in the practice, and is written for the practice.

We all know that there are two great groups of heart murmurs—the accidental and anæmic, and organic ones. Diastolic murmurs are nearly always organic. The systolic might be either one or the other, but I venture to say that the vast majority of systolic murmurs are not due to organic valvular heart failures. We do not know anything definite about the origin of the anæmic murmurs. It is, therefore, of the utmost importance to be able to distinguish these from the organic murmurs. According to von Noorden, we have to take into consideration that at least ten per cent. of all healthy men, and twenty per cent. of all healthy women have, instead of the first heart sound, a systolic murmur, usually either at the apex or in the left second interstitum above the pulmonary valve. This phenomenon also is said to occur in children between the ages of ten and fourteen commonly, but here mostly above the pulmonary valve. The diseases which produce the accidental murmurs are in the first line all anæmic conditions, especially chlorosis, and acute infectious diseases with fever; also pregnancy. In anæmic persons one can say that the absence of the systolic murmur is almost the exception. But how are we to decide whether a murmur is an accidental or an organic one? The murmur itself does not give us any clue whatever. The text-books say that in the most cases the functional murmur is not as loud as the organic one, but from my own experience I must

say that neither the intensity of the murmur nor its changes, in varying the posture of the patient, are conclusive. I have heard very intense murmurs in cases where there was only a functional disorder, and, on the other hand, very soft ones in undoubted organic heart failures. The further development of these cases verifies this statement. We have, therefore, to rely not so much upon the murmur as upon the other symptoms present, or, as I might say, the absence of all other symptoms. In cases of marked anæmia, or if the other above mentioned conditions are present, the diagnosis of accidental murmurs ought to be easy. But we should also take into consideration that we very often see or hear systolic murmurs without the signs of anæmia. In cases where we do not find any enlargement of the heart, nor any accentuation of the second pulmonary sound, we never should make a diagnosis of an organic heart lesion, *i. e.,* in cases of mitral insufficiency. But in some cases of chlorosis we occasionally have conditions which simulate absolutely an organic heart failure, and especially a mitral insufficiency. The physical examination reveals an enlarged area of dulness, and especially an apparent enlargement of the right heart, but the left heart also seems to be enlarged. The apex beat occurs farther to the left than normally. Both sounds over the pulmonary valve can be heard much more intensely than the aortic sounds. The systole at the apex reveals a loud murmur, but, in spite of all these symptoms, there is no organic heart lesion present. On account of their constitutional condition, these young persons breath very superficially and do not develop the lungs fully. The diaphragm stands high, the lungs are not able, under these circumstances, to cover the heart as in normal individuals and leave a much larger area of dulness over the heart region. In order to avoid any error, one should always, in examining the heart, ascertain the position of the diaphragm. Furthermore, a simple experiment will show whether there is actually an enlargement of the heart, or only insufficiently developed lungs. Let the patient take, for a short time, deep breathing exercises, and then examine again. The lungs will have developed themselves fully and the apparent enlargement of the heart has disappeared. We must always take the history of the case, and the totality of the symptoms into consideration, here as well as anywhere else, before we make a diagnosis. My own experience has taught me even more. We might have an apparently conclusive history and also apparently sure signs of an organic heart lesion might be present, and still there might be only an anæmic or accidental murmur. The following case will illustrate this statement:

Mrs. G. S., now twenty-one years old, at the age of twelve had an attack of inflammatory rheumatism, involving both elbows and hands. When she was fourteen years old the attack recurred, but was not as severe as the first one. This time the right foot and both hands were affected. I saw her first when she was fifteen years old. She had marked chlorosis, hæmoglobin 80 per cent., pulse normal, heart en-

largement reaching to the middle of the sternum. The apex beat in the fifth interstitial space, just below the nipple; loud systolic murmur at the apex; second pulmonary sound distinctly louder than the second sound over the aorta. After severe exercise, pulse irregular, heart action accentuated, lips, cheeks, ears of a bluish color, sometimes actually purple, for instance, while dancing; shortness of breath, and tendency to bronchial affections. The history, as well as the findings in this case, would doubtless have justified me in making the diagnosis of mitral insufficiency, due to inflammatory rheumatism, and, at first, I was inclined to make this diagnosis. But after prescribing iron in various forms, the chlorotic condition improved greatly and the murmur at the apex gradually disappeared. We had to battle for three years, and often when the young lady had not taken iron for a while the symptoms returned in their totality. Chlorosis, as well as all the other symptoms named, disappeared entirely when the patient was eighteen years old, and, in spite of repeated examinations, I have been unable to detect any heart disturbance since. The patient is perfectly well.

This case was doubtless not one of an organic mitral insufficiency and shows how difficult the differential diagnosis may sometimes be.

The impression made upon me by a number of cases was that some of the anæmic murmurs were not so constant in their intensity. This is the only sign that I might say differs from a relative murmur, but I am not yet absolutely sure of that either.

We now come to a group of cases which lead, as it were, from the anæmic to the organic heart murmur. I refer to those cases with so-called "relative" insufficiency. They are neither accidental nor real organic ones, as the valves themselves, in these cases, are absolutely intact. The relative insufficiency is always due to an over-stretching of the heart muscle from some cause. A relative insufficiency might occur in any ostium of the heart. We are here interested only in the conditions which are due to the insufficiency of the mitral valve, and leave, therefore, the others out of consideration. There are a number of processes, by which the heart muscle itself is so weakened that the pressure of the blood in the heart cavity causes an over-extension of the entire muscle of the left ventricle, and the papillary muscles are separated from each other, so that, during the closure of the valve, that is, during the systole, the valve fails to close tightly. This may happen in all cases of anæmia, chlorosis included, general debility, diabetes mellitus, Graves' disease and other processes, which cause general marasmus (and furthermore as a complication of other valvular lesions, for instance, aortic insufficiency). Clinical experience teaches that this kind of insufficiency will restore itself to the normal, if the cause can be removed. It is easy to understand the pathogenesis of this insufficiency, as the heart muscle, which is weakened by the general process, has to perform an increased duty, which it is only able to do with the help of all the reserve force it possesses. Dilatation of the left ventricle is the natural

result. This dilatation precedes here the insufficiency and not the insufficiency the dilatation, as is the case in pure organic insufficiency. The diagnosis of relative insufficiency might be easy if we have one of the above-mentioned constitutional diseases present, and if there is a slight enlargement of the left heart especially, but often this slight enlargement cannot be satisfactorily demonstrated. The heart of these patients is naturally often so small that a slight dilatation of the left ventricle will appear, as if it were within the normal boundaries of heart dulness.

As a general rule, I must say that this class of heart affections, with its systolic murmur at the apex, often presents insurmountable difficulties as to the differential diagnosis between itself and the simple anæmic murmur and real organic mitral insufficiency. We must consider carefully the history and all the symptoms of the case, and even then we often make mistakes. As far as the "relative" murmur is concerned, I only know of one sign which might help us out; that is the persistency of the murmur, its intensity, and invariability, which lasts until the general condition is improved. I have been able to prove the correctness of this statement in quite a number of cases, but whether there are not exceptions to this rule I would not venture to state. As far as the differential diagnosis between organic and relative mitral insufficiency is concerned, I wish to refer to what I shall say later on during the discussion of the former. One statement I would like to make is that an organic mitral insufficiency, due for instance to acute inflammatory rheumatism, which occurs mostly in young persons, will debilitate the body in general so much that only under the consideration of the history, and all the symptoms present, are we able to decide whether the heart failure or the general debility was the preceding agency. In other words, whether we have an organic or only a relative insufficiency present. This relative insufficiency is by no means uncommon, and we ought to think of this possibility in each case where there is a systolic murmur at the apex. By no means should we speak of an irreparable insufficiency, to the patient and his relatives, if there is even a possibility that there might be only a relative insufficiency, which could be cured under favorable circumstances. As an illustration, I will briefly report a case which is still under my observation.

Miss H. J., aged 21 years, has had the diseases common to childhood. At four years of age she had a severe attack of diphtheria; she also had measles and malaria, the latter at the age of ten. Since her seventh year, up to very recently, patient had very frequent and severe attacks of chronic uritcaria. These attacks were always brought on by the child becoming overheated, or by eating strawberries, crab, lobster, etc., and also, after taking certain drugs, for instance quinine. At the age of fourteen patient had an exceedingly severe spell of scarlet fever, and ever since she had been in a weakened condition. The body did not develop properly. She grew to be very nervous and had frequent attacks of indigestion.

A number of physicians were consulted without satisfactory results. The last one (an able physician indeed), told the mother that patient had organic heart disease; that one of the valves was leaking, and that patient would never be a strong, healthy woman. This was about six months ago. I saw the patient for the first time in March, last. She is five feet tall, weight eighty-three pounds, body very poorly developed, bones as well as muscles. The organs, with the exception of the heart, and also the blood, did not show any pathological changes, but were all below par; slight gastroptosis and entroptosis were present; right kidney palpable; tenth rib on either side fluctuant; chest small; heart small, not enlarged. Loud systolic murmur at the apex. No accentuation of the second pulmonary sound. Hæmoglobin 75 per cent.; examination of gastric contents showed decided super-acidity; urine normal. Diagnosis: General debility of the type that Stiller in Pesth calls "asthenia universalis," anæmia, relative mitral insufficiency and super-acidity. A proper dietary, physical and medicinal treatment were inaugurated, under which the patient grew gradually better and stronger. The systolic murmur did not change any in its character for the first six weeks, but after that it grew gradually softer and has now practically disappeared. Patient now weighs 90 pounds, a gain of seven pounds. The hæmoglobin is 100 per cent.

The absence of any other changes in the heart caused me at once to decide against any real organic lesions, while the continued persistence of the murmur, which was always of the same intensity, caused me to decide in favor of relative insufficiency instead of a simple anæmic murmur.

The organic mitral insufficiency, due to endocarditis, has two great causes in its etiology—acute infectious diseases and, in the first line, acute inflammatory rheumatism, and, secondly, arteriosclerosis. The text books say that this is by far the most common of all heart failures. My own experience has shown me that this, at least in the middle-west of the United States, is not correct. I certainly see five or six cases of aortic regurgitation where I see one case of real mitral insufficiency. This is evidently due to the fact that in our latitudes acute inflammatory rheumatism is not as common as it is in middle and northern Europe. I meet with a good many relative insufficiencies, or with anæmic murmurs, but an endocarditic mitral insufficiency is comparatively scarce here. The opinions of the authors, as to whether the diagnosis of mitral insufficiency is an easy one or not, differs very materially. William Osler and Von Noorden, for instance, do not consider it at all hard in the common run of cases, while Traube and Romberg pronounce it the most difficult diagnosis of all valvular heart affections. Juergensen, who wrote that most excellent monograph on endocarditis, goes even as far as to state that one never can be absolutely sure whether the diagnosis of mitral insufficiency in a given case is correct or not. I, myself, side with the latter ones. If the practitioner depends entirely upon the systolic murmur

and a few other signs he will often make mistakes. I gladly concede that it is easy, in a case of well-developed mitral insufficiency, with all the required symptoms present, to make this diagnosis, and in many cases the diagnosis will be correct; but sometimes, in spite of the presence of all the symptoms required, the diagnosis will be found to be incorrect, on the post-mortem table. And I would like to know how we can be sure, in many cases, whether we have an endocarditis or only muscular insufficiency present. But what are the classical symptoms of mitral insufficiency? The text books name the following symptoms in a well developed compensated case: Systolic murmur at the apex; hypertrophy of the right ventricle; dilatation and hypertrophy of the left ventricle, and accentuation of the second pulmonary sound. Of the latter symptom, I must say that it is very inconstant, but if it is present it is a great help in making the diagnosis. As far as the character of the murmur is concerned, it may be of all degrees of intensity, from the softest, breath-like murmur to a hard metallic one. The systolic murmur is a necessary requirement in making the diagnosis. I have read of a few cases in literature where this murmur was not present, and the diagnosis of mitral insufficiency was proven to be correct on the post-mortem table. These few exceptions only prove the rule, and I would advise nobody to make the diagnosis of mitral insufficiency without the systolic murmur at the apex. But I wish here to draw attention to the fact that in many cases of mitral insufficiency the systolic murmur is likely to disappear at any time, only to return later.

The right ventricle always shows signs of hypertrophy. Dilatation is not present during compensation, but always is to be found in compensated cases. As to the left ventricle, dilatation here always precedes the hypertrophy, and the latter is never so extensive as that of the right ventricle. The left auricle is always enlarged, and its walls are thickened. The right auricle will only be dilated in cases of incompensation. I discuss these conditions in order that my remarks on the form which the heart presents in cases of mitral insufficiency may be more easily understood. The form in these cases is, indeed, of the utmost importance, and is so characteristic that I might call it almost pathognomonic, though in the hypertrophied condition of the right ventricle the heart loses its normal conical form. It grows more in width and takes on the form of a ball flattened from the front toward the back. The apex is considerably widened out and does not consist any more of the left ventricle alone, but of the right and left together, and, in occasional extreme cases, of the right one exclusively; but this latter, only in well developed incompensation. The more the right ventricle, which lies on the diaphragm, hypertrophies, the more the apex and the ventricles will be forced upward, so that often the left ventricle reaches, to a considerable extent, the lower edge of the second rib. The dilatation and hypertrophy of the left heart are, in general, slight. The heart, therefore, grows more in width than in length, and even in extreme cases, where

the apex beat is far outside of the nipple, the growth of the width is always proportionally greater than that of the length. Only recently, I examined such an extreme case where width and length each measured five and one-half inches. This is only in aggravated cases. Considering that the heart is normally much longer than wide, one can easily see my point. The heart is, furthermore, pushed from its original diagonal position to a horizontal one. The apex beat, therefore, moves higher up, also. It is not felt any more inside and below the nipple, but often at the nipple itself, or above and outside of the latter. These statements I have often verified by fluoroscopic examination, whereby all the different parts of the heart can be easily distinguished. But I have learned still more through the fluoroscope. The right heart always shows a considerable enlargement on percussion. In earlier days, this was attributed to a dilatation of the right ventricle, but we know now that in compensated cases the right heart is only hypertrophied and not dilated. The general opinion is now that the hypertrophied right ventricle is the cause of the enlargement to the right. The fluoroscope shows that the enlarged left auricle pushes the right heart more to the front, so that it gives a larger area of dulness, and this dulness over the sternum is due only to the displaced right auricle, and not to the right ventricle. If we outline with a colored pencil on the skin, the dulness of the heart (and this should be done in all heart cases), we will get a very characteristic picture. We have a straight line from the second rib downward on the right edge of the sternum. On the left side, we see a strongly curved line, almost like a part of a circle, extending down, from the lower edge of the second rib to the nipple, or a little outside of it. In contrast to this, I want to state that in aortic insufficiency the increase is decidedly more in the length than in the width of the heart, and the curved line on the left side is much flatter and reaches far beyond the nipple. These conditions are, to my mind, of the greatest importance in the diagnosis of mitral insufficiency. Some of the details might vary a little, but you will always find the general outlines of my statement to be correct. In order to be just, I must state that I found some of these ideas already mentioned by Bamberger, perhaps the greatest heart diagnostician who ever lived. But it is a curious fact that, in all the literature since the days of Bamberger, as far as it was accessible to me, I have found that only Juergensen had similar ideas. My statements are the result of years of experience, and if you find, in some text books, assertions to the contrary, you may safely take them as incorrect. Osler, for instance, asserts in his newest work, "Modern Medicine," that in cases of mitral insufficiency, the heart grows mostly in length. I gladly leave this question to anyone who cares to investigate.

The hypertrophy of the right ventricle can be diagnosed, at first, from the second accentuated pulmonary sound, if this is present, and in all cases from the characteristic figure of the dulness of the heart.

We now see that in the diagnosis of mitral insufficiency, the systolic murmur is not the only factor to be considered; that, furthermore, this murmur is not by any means the most important of the symptoms, but that the hypertrophy of the right ventricle, the dilatation and the hypertrophy of the left ventricle, the characteristic heart figure, etc., are equally as important as the murmur, and I again want to caution the practitioner against making this diagnosis except in cases where all these symptoms are present.

But how unsafe this diagnosis sometimes is, is shown by a case that Juergensen reports in his text book—that of a woman 53 years old. He found all of the above mentioned symptoms, and in addition to these a number of others which I have not mentioned in my discussion, as they are such well-known complications of mitral insufficiency. For instance, palpitation of the heart, bronchial catarrh, cardiac asthma and dropsical evidences. The diagnosis of mitral insufficiency was made but the post-mortem showed a slight dilatation and hypertrophy of the heart in toto, but no change of the mitral valves. And Juergensen says: "So it goes often enough, one risks again and again, to travel the road that leads to the mire."

As another example of the difficulties which might arise in this connection, I cite one of my own cases. A young lady nineteen years old, had as a child a history of no interest at all. At the age of twelve she had an attack of rheumatic fever, during which the physician in charge detected a loud systolic murmur at the apex. The parents were told that their daughter had an organic heart lesion, due to inflammatory rheumatism. The child was carefully guarded and grew into womanhood. Patient is of a very lively temperament and, in spite of all the precautions the parents took during these years, she often escaped them and exercised violently. Repeated examinations of the heart by different physicians always revealed the same condition. When I saw the young lady, I was told, by patient, that she never had experienced the slightest inconvenience from her heart; that she never had any palpitations or cough, nor pains in the chest; also no shortness of breath, and that she never realized she had a heart. Examination showed no enlargement of any part of the heart, but a loud systolic murmur at the apex, and a weaker one at the pulmonary ostium. Repeated examinations always showed the same condition. These murmurs have now lasted continuously for seven years, but the otherwise normal heart prevents me absolutely from making a definite diagnosis. I do not know what it is, but can only say that the mitral valves do not close tightly.

In conclusion, I hope that I have made my position clear enough to be understood. I would like to warn against any superficiality in the cases under discussion. I acknowledge absolutely the importance of the systolic murmur at the apex, but I say again that this alone does not make a diagnosis possible. The totality of the symptoms with the history of the case must also be taken into consideration.

THE PREVENTION OF OPHTHALMIA NEONATORUM.*

By P. I. Leonard, M. D., St. Joseph, Mo.

One of the striking features in President Roosevelt's message was the recommendation that we should conserve not only our material, but also our vital resources.

Before an audience like this, it is unnecessary to do more than mention the economic value of vision, and the economic saving to the State, that after a proper treatment of the diseases of the eyes or their injuries, you do prevent blindness.

It can be said to the credit of the oculist, that perhaps no one, except the patient himself, feels happier than he who, after considerable worry and sacrifice, often without any remuneration, simply feels that he has done his duty to his fellowman and his State. The disease of the eye which most frequently leads to blindness is ophthalmia neonatorum, and as a member of the committee appointed by our society, I feel sure that a discussion of how to go about the prevention of this disease would give the committee valuable information, and the members could suggest the actual conditions in the State.

The conditions which lead to the prevention of disease are of a politico-sociological importance. My own experience in a legislative direction has forcibly impressed upon me the futility of any "half-baked" laws which never could be successfully enforced. These bills are often introduced either by a "grand-stander" or a sociological myope. The bills introduced in our congress and legislatures in one session no man could read in a hundred years.

Our legislative bodies are crowded almost exclusively by lawyers, and they consider specific directions necessary at all times, rather than a mere interpretation of the law.

An eminent lawyer claims great credit for the legal profession in that no lawyer takes from any man more than he has. Attorney-General Wickersham, in a speech to the alumni of the University of Pennsylvania, said that the physician of to-day bears an important relation in the proper execution of the laws for the health and safety of the general public, as well as being largely instrumental in having laws enacted for the protection of the public.

The preacher and the lawyer deal with what has been, but the physician must solve the questions of the future, and if history does not repeat herself, and decay once again destroy civilization, then it will be the physician who must lead mankind to the millenium.

*Read in the Eye, Ear, Nose and Throat Section at the Annual Meeting of the Missouri State Medical Association, Jefferson City, May, 1909.

In preventing disease we dig our own graves, and many of our political friends regard us with suspicion, who would rather believe us capable of contaminating the drinking water with infectious material, than prevent the infection from reaching our homes.

A physician would immediately resent the imputation of not being a good citizen, and yet he takes no interest in politics; sometimes he does not even vote. He thinks his colleague who does, lacks in professional ability. Let him look to European masters in medicine who have occupied seats in legislative assemblies. The higher type of the American people do not generally occupy the legislative chairs. We get just as good a government as we deserve.

Education of the profession, midwives, nurses, educators, parents, legislators, and the public generally, is essential before we can prevent ophthalmia neonatorum, and other diseases which lead to blindness. Our recent legislature made a long step in advance in passing the vital statistics bill. "The proper registration and preservation of records regarding births, deaths, etc., is one of the most important questions with which the State has to deal. On the accuracy of such records depends the value of conclusions drawn regarding longevity, diseases, births, effects of occupation, etc. This subject has been too much neglected by many of our states. It is evident that in order to be of any value for purposes of comparison, vital statistics in different states must be collected and recorded on practically the same system. Uniformity, therefore, becomes essential." A worthy issue, wisely and persistently urged, has been accomplished, and prepares the ground for the next effort.

The public is being awakened by a popular interest in medical matters, and our profession must urge reasonable and utilitarian measures.

The State Board of Health seems to be the proper authority for establishing the necessary rules, regulations and ordinances and enforcing their observance, and for publishing and distributing appropriate information on the subject. The Illinois Commission on the Condition of the Blind reports as follows:

> "An act to prevent inflammation of the eyes of the new-born babe, or so-called ophthalmia neonatorum:
>
> "Section 1. The Board of Health of the State of Illinois is hereby vested with power and authority to publish and distribute such information and instruction, to furnish such remedies and to make such rules, regulations and ordinances as it may deem expedient to prevent the development of inflammation of the eyes of the new-born babe, so-called ophthalmia neonatorum, in public hospitals or institutions in which midwifery is practiced, either wholly or in part, and in connection with the practice of midwives.
>
> "Sec. 2. Said Board of Health is authorized to enforce its rules, regulations and ordinances on this subject at the expense of the State.
>
> "Sec. 3. Any person violating any rule, regulation or ordinance of said Board of Health regarding the prevention of ophthalmia

neonatorum shall be guilty of misdemeanor and shall be punishable by a fine not to exceed $100, or imprisonment not to exceed six months, or both."

In speaking of midwives Howe, of Buffalo, says:

"These women are too ignorant to be educated by appeals to them. This fact is clearly shown by legislation concerning the midwives in the County of Erie, New York State (where Buffalo is situated). In 1885 a law was passed requiring their registration, and immediately afterwards a campaign was begun to educate them concerning the prevention of this disease. These efforts amounted to practically nothing, until two of them were convicted in accordance with the law already cited. That caused consternation, and after that they not only reported cases frequently, but at the Eye and Ear Infirmary and other such institutions we now see these cases in a much earlier stage.

"Second. We undoubtedly should have laws which require midwives to use a 2 per cent. solution of silver nitrate or some other equally efficient antiseptic."

Speaking of the State of New York, Howe says that many obstetricians, and even some teachers of obstetrics, do not know of the existence of the law in their own states.

If in the future we do not wish to see children groping their way in hopeless darkness, if their lives are not to be an endless gloom, physicians must all do their duty.

Our State and local boards of health, our medical colleges, our schools for midwives and nurses, school teachers, preachers, the public press, public lectures, pamphlets, etc., must be engaged in this fight.

In this connection we see the unsocial attitude of the quack who contributes nothing to the prevention of disease, and the unfortunate isolated position of the physician who refuses to join hands with his colleagues.

The single individual accomplishes almost nothing; it is only as a part of an organization that great principles can be successfully applied for the benefit of mankind.

The State Society accepts altruistic responsibilities and activities, and our committee on legislation deserves credit because it "did" things.

Everyone who treats the sick or the imaginary sick by any method whatever, or by no method, should be compelled to know something of anatomy, physiology and pathology. At present anyone can practice in Missouri without examination, except a regular physician.

The unfortunate credulity of mankind is the harvest of the quack and the psychic healer, for as Heine has only too truthfully said: "No man is ever so crazy but that he will find one still crazier who can understand him."

It is a pity, and a psychological problem, that fairly reputable physicians, presumably for mercenary reasons, consult with irregulars, and

thus uphold quacks whose every influence opposes the aim and tendencies of our profession. Stranger still, it is not the poor doctor that is guilty.

The roseate view of medical associations of Dr. McCormack is perhaps carrying friendliness and sociability too far. We admit that jealousy and rivalry is a bane of the profession, but if we wish to justify our existence it must be along moral rather than immoral lines. What a man does is the proof to the world of what a man is. We know that ethical principles are not easily enforced, they are so full of loopholes for those who look for them.

Even if all infectious and some other diseases were abolished, Tyson says there still remain a multitude of ills, diseases of the vascular, nervous and digestive systems, due to individual habits and modes of living which civilization will never wholly correct. If physicians themselves suffer from them there is little hope that others may be more fortunate.

Some diseases may become extinct, others take their place, and mankind must pass yet through many centuries of evolution before the profession of healing will be of the past.

There will be fewer doctors and these will still reach the goal of success. Kipling says of doctors: "You remain now, perhaps, the only class that dares to tell the world that we can get no more out of a machine than we put into it.

The iconoclastic Lydston has said something rather clever about success:

> "And so, let us fight on—fight to win that success which is always just ahead. The struggle for the unattainable has ever been a struggle for the ideal. Striving for the ideal is what has raised mankind from its old place among the cattle—and the flies.
>
> "If I were asked for a definition of a successful man, I should say: 'A successful man is he who has done the best he could with such material as nature gave him.' And yet, this standard would be for the world, not for the man himself. As I said before, by the true standard—one's own opinion of himself as a success—there are no successful men. And this is well for the world, though hard for the individual."

Our idea is beautifully expressed by the following verse:

> "Not the thing which we accomplish,
> But the better thing we plan,
> Not achievements, but ideals
> Are the measure of a man."

DISCUSSION.

Dr. John Green, Jr., St. Louis, stated that the State of Missouri has a law which compels midwives to report to a legally qualified practitioner any discharge of pus from the eye of the new-born babe. To his knowledge there had never been any prosecution under this law. We

know that there are midwives in collusion with weak brothers in our own ranks, to one of whom she could legally refer such a case and he would be very apt to protect her from the law. A change in the law compelling the midwife to report such cases to the county health board so that, no matter who might back up the midwife, the case would come to the attention of the proper authorities, would be a great improvement.

Dr. J. D. Pifer, of Joplin, stated that he advocated the use of argyrol in a 25 per cent. solution. In this concentration there is no irritation and no damage to the babe's eyes.

Dr. Guy L. Noyes, of Columbia, stated that he thought the suggestions were right, in the main, and emphasized the necessity of prophylactic measures. He said he had never seen a case of ophthalmia neonatorum in the practice of reputable physicians, except where no prophylactic measures had been used; he considered, therefore, that our most important duty is to emphasize continually the need of making routine use of the ordinary prophylactic measures that are known to be useful in the prevention of eye disease of the new born.

Dr. Barton Pitts, of St. Joseph, had seen a great number of cases where the treatment did as much harm as the disease, in his opinion. He thought this statement would not apply to members of the profession who make a specialty of such diseases as much as to the general practitioner. He believed it best to use nitrate of silver solution, accompanied by atropine if necessary. He used solutions of nitrate of silver of the strength of a half grain to one grain to the ounce, believing that weak applications in the early stages were best. He had lost one case where he used bichloride of mercury. The result might, however, have been caused by the fact that the solution was hot. He believed the continued application of cold with a weak nitrate of silver solution the best agents we have for combating the disease. He had used the treatment with yeast, as suggested by Dr. Thompson, but without result.

Dr. Flavel B. Tiffany, of Kansas City, said that he did not at present use silver nitrate in as strong solution as he had formerly done, nor did he use it in the first stage of the disease, but only after suppuration had begun. He believed that prophylaxis was the most important feature of treatment. He had used argyrol quite a great deal, but had been disappointed in two or three cases. Since Dr. Standish read his paper at the Atlantic City meeting, he had used it quite extensively, but had been sadly disappointed in two or three cases. In one case especially, notwithstanding the most vigilant and careful treatment with argyrol, both corneas sloughed and vision was practically lost. Since then he has grown somewhat skeptical as to its efficacy in virulent forms of gonorrheal ophthalmia.

Dr. Leonard, in closing, stated that while the main point was the prevention of ophthalmia neonatorum, the proper use of silver nitrate was not harmful, but the eyes must be kept clean. He thought the board of health should be empowered to take charge of such cases and should be supplied with sufficient money to carry out the propaganda.

THE NEW STANDARD OF DIET.*

By I. J. Wolf, M. D., of Kansas City, Mo.

A paper on diet is not a frequent occurrence in gatherings like this, although everybody will concede that the subject of diet is an extremely important one, both to the physicians and to the people in general.

And yet, we physicians, while constantly searching for new remedies and drugs for every known ill and ailment, and devising new operations, even in cases essentially medical, are more or less apt to forget a remedy which for a great number of diseases and conditions is by far more efficacious and more generally applicable than any drug ever discovered—and this remedy is diet. Further it cannot be denied than on the subject of diet most of us are woefully ignorant and deficient; and while few of us would be unable to write a correct prescription of drugs for the druggist to compound, equally as few or even less would be able, if called upon to do so, to write a correct prescription for or give an outline of a day's diet, correct as to quality, quantity and composition, so that the cook in the diet kitchen could dispense it without further questions. Again, in how many hospitals of this city, and other cities, are the facilities adequate for a proper dietary treatment of diseases, so that the patient is sure to get exactly what is prescribed, without taxing the patience and time of the nursing staff unnecessarily? These same hospitals are fully equipped to carry out preparations for operations to the minutest details, but are little prepared for medical cases, especially those requiring a diet and physical remedies, such as light, heat, massage and electricity.

This suggests the necessity, in cities, of a hospital where these shortcomings are eliminated; a hospital, in other words, for non-surgical cases and convalescents.

There is, indeed, no subject in medicine more important than that of diet, both from the standpoint of the etiology, prevention and cure of a great number of diseases.

Diet, deficient in quantity or quality, is almost the sole etiological factor in many diseases like scurvy, rickets, gout and the great number of affections of the stomach and intestines, of the liver and kidneys, even of the heart and lungs.

Diet, correct in quantity as well as quality, will prevent those same named diseases as surely as will quarantine prevent the spread of contagion.

*Read in the Medical Section at the Annual Meeting of the Missouri State Medical Association, Jefferson City, May, 1909.

And diet, correct as to quantity and quality and adjusted to the individual case and patient, will as surely cure many of these diseases, as will antitoxin cure diphtheria, and will as effectively alleviate many others, as will drugs alleviate symptoms of diseases which they cannot cure.

Notwithstanding the great importance of this subject in health and disease, we have contented ourselves with the teachings handed down to us over forty years ago, and though a few voices are heard here and there, rebelling against old teachings and time-honored customs, and though the experiences and claims of vegetarians, nutarians, fruitarians, etc., seem to be accepted as correct by few and known to many, there is as yet no awakening in the great mass of the medical profession as to what these isms teach and point to in man.

And yet those few who have followed the course of events recognize that we need a far more complete scientific knowledge than we possess at present of the laws governing nutrition; we need to know more concerning the minimum diet and especially the minimum amount of proteid on which health and strength, both mental and physical, are to be maintained under any and all conditions of health, climes or occupations and about so many other points so important to the welfare of civilized man.

In this connection it may be well to point out that for our purposes foods are divided into three classes:

1. The proteids (mostly taken from the animal kingdom).
2. The fats.
3. The carbohydrates.

The two latter, *i. e.,* the fats and carbohydrates, are burned up in the body, to carbonic acid and water and furnish heat and energy. Their oxidation is easily accomplished and complete, and even if taken in excess, leave little waste behind and at the worst cause unnecessary work on the part of the digestive organs, perhaps undue fermentation and irritation, often an unnecessary deposit of fat, which at times becomes pathological, but seldom extremely dangerous.

The proteids, on the other hand, or nitrogenous foods; while capable of yielding a little energy and heat, are taken mostly to supply new tissue and repair wear and tear, a function which no other class of foods can perform in their stead. Hence they are and always have been regarded as the most essential part of a diet, without which the body could not long survive.

In the course of their metabolism in the body, however, they do not form such simple chemical compounds as do the starches and fats, but their metabolism results in the formation of nitrogenous waste products, consisting of crystalline nitrogenous products, such as urea, uric acid, creatin, etc., products which, if retained in excess in the blood or deposited in the various organs, act as poisons and give rise to diseases which have long been the study of physiologists and physi-

cians the world over. An excess, then, of proteid food, above the quantity really required, is thus by far a more serious matter than would be an excess of fats and carbohydrates, and the all-absorbing and important question then is: How much proteid food should man consume to remain in perfect health, strength and weight?

Statistical studies carried out on large groups of individuals by various physiologists have led to the general acceptance of dietary standards, such as those proposed by Voit and Pettenkoffer, of Munich, and Atwater in this country. The classical experiments made forty years ago by Voit and Pettenkoffer have led to the general acceptance of his standard of diet. And in spite of many proofs that individuals and even nations have been and are living on a much lower standard, especially so far as the proteid part is concerned, physiologists, scientists and physicians, as a body, have been reluctant to depart from the current doctrines of the Munich school, with the result that the old standard of diet calling for 80 to 120 gr. of proteid is still regarded as the true standard in health, and is taught in every school in the land. Only on such a proteid intake, we are taught, can the body be maintained in perfect equilibrium, *i. e.,* as much nitrogen be excreted as is taken in, and the individual remain healthy, strong and keep his weight.

But of late years voices are heard, both in and out of the profession, who claim that this old standard of diet of the Munich school is not correct and much too high, at least so far as the proteids are concerned. They claim that the fact that people can live for a long time with apparent immunity and in good health on such a high proteid intake, proves absolutely nothing but a soundness of the excretory organs and a tolerance and adaptability of the system to various abuses; and they hold that such experiments undertaken on individuals who are guided by nothing but their instincts, habits and appetites, do not answer the question in a strictly scientific manner; and in support of their claim they point to individuals and even nations who live on a much lower proteid value and yet are in perfect mental and physical strength.

To test and determine the validity of these claims, two American investigators, Professors Chittenden and Folin, set to work in a scientific way, but both from different points of view, and investigated the question as to the amount of proteid food that was absolutely necessary in the diet of a healthy person. Professor Chittenden, director of the Sheffield Scientific School of Yale University, and professor of physiological chemistry, published his experiments in an article: "The Physiological Economy of Nutrition." He experimented on three groups of men. First: Five students of the University of Yale, representing the mental workers; second: Three volunteers of the hospital corps of the United States Army, representing the moderate physical workers; and third: Eight men from the University, trained athletes, representing that class doing mental work along with severe physical

labor. These men were at first allowed their usual diet, during which an exact record was kept of their intake and output and also of their strength, efficiency, weight and so on. Then the proteids of their diet were reduced to one-half or even less, allowing at the same time free use of fats and carbohydrates, according to their tastes and inclinations. On this restricted diet their weight at first decreased a trifle, *i. e.*, about five pounds, but soon became stationary, and it was found that not only perfect nitrogen balance was maintained, but that their physical and mental vigor was more marked than ever, and this on a nitrogen output of from 6 to 9 grams instead of 16, representing an intake or metabolism of proteids of but 40 to 50 grams per day.

Then came Professor Folin, working in the chemical laboratory of the McLean Hospital for the Insane in Waverly, Mass., attacking the same question from a different point of view and by a different route; and he published his researches in two articles entitled: (1) "The Law Governing the Chemical Composition of the Urine," and (2) "The Theory of Proteid Metabolism."

I will not weary you with a detailed account of his work, but will mention that, by making a complete analysis of all the nitrogen-containing substances in the urine, he was able to get at quite remarkable results, which prove the same facts which Chittenden proved in a more practical way. The analysis of the urine of two test individuals, doing the same amount of mental and physical work, of about the same age and weight, the one on a diet according to the old standard with a proteid intake of about 100, the other on a diet according to the new standard with a proteid intake of about 25 grams per day, showed the following results side by side:

	Old.		New.
Amount	11.70		3.85
Total N	16.8	Grammes	3.6
Ureatinin N	14.7		2.20
Kreatinin N	0.58		0.6
Uric Acid N	0.18		0.09

You will thus see that the total nitrogen excreted diminished from 16.8 to 3.6, of which the urea nitrogen showed the greatest and most remarkable decrease, from 14.7 to 2.20, whereas the kreatinin nitrogen did not only not diminish, but showed a slight increase. This, according to Folin, proves that we have to deal with two kinds of metabolism: First, the metabolism of food proteids, represented by urea N., and which increases and decreases with the amount of proteid food consumed. Second, the metabolism of tissue-proteids, as represented by kreatinin N., the amount of which remains unchanged and bears no relation to the food, but is solely dependent on the wear and tear that goes constantly on in the tissues of the body during rest, as well as during sleep.

This theory well explains why urea, the metabolic product of food proteid, is not found, except in traces, in the muscles where the greatest amount of wear and tear is going on, whereas kreatinin is found there. It is this kreatinin N., then, which fixes the limit for the lowest possible amount of proteid which should and must be consumed daily to repair the natural wear and tear, and to prevent the destruction of bodily tissues. The actual amount of proteid food equivalent to this amount of kreatinin N. would be about four grams. Nobody, however, would risk to recommend such a ridiculously small amount of proteid in the diet; on the contrary, 10 times that amount seems to be the lowest limit recommended by such extreme advocates of the new diet as Chittenden and Folin. We must not forget that not all the proteid of our food is utilized to repair the daily wear and tear; a great deal of it remains unutilized in the intestines; a part (and nobody knows how large a part) goes to furnish heat and energy, so that after all only a small part of the nitrogen of the food gets to the tissues, there to be converted into the tissue-building material and to be used for making new tissues, and for the repair of broken down cells. We have here a similar phenomenon, as I take it, to what we see in testicular secretion. Nature furnishes millions of spermatozoa when only a few are needed to impregnate an ovum. It seems that nature takes no chance where such vital functions are concerned, as the preservation of the species or individual.

One of my students in the Kansas University, now Dr. Harrington, of Kansas City, undertook, on my advice, to live on such a diet while a student at the medical school and pursuing the work of such. The experiment began about January 10 and continued uninterruptedly until June 1, that is, almost five months, during which time a record was kept of the quantity and quality of the food consumed daily, of his weight and the amount of urine passed daily, and so on. Unfortunately a more detailed analysis of the urine, allowing a comparison between the nitrogen intake and output, was not made for various reasons, principally because such investigations require the use of a physiological laboratory, and unless absolutely accurate have no scientific value. During the test, lasting five months, the number of his meals seldom exceeded two per day; the first being taken about noon, the second sometime in the evening. The character of his meals you can best judge by my giving you a sample of his diet list for one day:

LUNCH.

			Prot.	Fat.	C.H.	Calor.
Meat	25	grammes.	5 gr.	1.25 gr.	..	11
Bread	110	"	8 "	...	55	252
Milk	270	"	10 "	10	..	...
Butter	24	"	..	...	21	189
Sugar	..		..	...	45	180
			23 gr.			802

SUPPER.

Milk ..... 210 grammes.	8	8	8	136
Bread ..... 120 "	7.5	..	60	270
Candy ..... 90 "	..	..	85	320
	15.5			726

In addition it must be stated that the use of fruit and green vegetables, *ad libitum,* was encouraged, and these items were never added to our calculation, as the food value, *i. e.,* the caloric value of these foods is very low and might well be disregarded. It will thus be seen that the amount of proteids consumed daily was about 40 gr. and the caloric value of the daily food seldom exceeded 1,500 calories, and was often not more than a thousand. This, however, I regard as a grave mistake. In the first few weeks the doctor complained about feeling weak and lost about six pounds in weight; but when, on my advice, he raised the caloric value of his food from 2,000 to 2,500 by the addition of more starches, sugars and fats, those initial symptoms of deficient food supply disappeared, his weight increased, and his physical and mental vigor became not only not impaired but was better than ever. The amount of his urine during the first few weeks, when the amount of food was insufficient, decreased to as low a figure as 690 c.c., but later rose to 1,080, at which point above it remained during the rest of the experiment. On February 28 he wrote in his record book that the tired feeling, first complained of, had left him, and that his physical and mental efficiency was brought to a point heretofore unknown to him, a result largely brought about by the supply of plenty of sugar and candy in his food.

Whether it is possible for all kinds of people to live indefinitely on such a low proteid diet without finally showing the effects of it in one way or another, and what is really the lowest figure of proteid intake at which nitrogen equilibrium can be maintained and the body kept in mental and physical vigor, remain for future investigators to determine. This much, however, seems to have been demonstrated beyond doubt, that we have all been using too much proteid food in our daily diet. You must remember that proteids, when metabolized, give rise to a number of crystalline nitrogenous products which are excreted through the kidneys. As long as the kidneys functionate well they will take care of a certain excess; but sooner or later, especially with advancing years, they show symptoms of over-work, and the products of complete or incomplete metabolism flooding the blood or being deposited in the tissues, poison the system and cause various diseased conditions. Even Voit has made it clear that the ideal diet consisted of the smallest amount of proteid food, together with enough non-nitrogenous food to keep the body in a state of physical and mental vigor. What that

smallest amount of proteid food should be seems to have been left for American investigators to elaborate.

Of the economical and social value of such a restricted diet I will not now speak, although it is equally important and far-reaching. The application of this new standard of diet in the treatment of such diseases as Bright's disease, gout, and other disorders of metabolism, is too simple, and its importance too evident to require special mention on my part.

After all it is not what we eat, but what we digest and assimilate, that counts. A superabundance of food, which causes the intestines to be filled with decomposed and putrefying matter, and which leads to mal-assimilation, is certainly a mistake and not wise and economic nutrition.

Whether we attain the latter by the "no breakfast plan" of Dewey, or by following Haig's advice to leave meat alone, or by Fletcherizing our food so as to squeeze all possible nourishment out of it, or by becoming nutarians or fruitarians, it hardly matters. All these fads proclaim that we eat too much and that we will have to curtail our daily quantity of food, if we will live in health and strength and attain a happy and "ripe" old age.

If by these remarks I contribute toward that end in your case, or at least arouse your interest in this subject and in the writings and teachings of Chittenden and Folin, the object of this short and incomplete paper is well attained.

DISCUSSION.

Dr. Joseph Grindon, St. Louis: Nothing could be more important than the subject of the paper to which we have just listened. The charge is justly made against our profession that we do not pay enough attention to diet. The physician's directions should properly begin with a statement of what the patient should eat. To the statement that the fool lives to eat and the wise man eats to live, can now be added that many accounted wise eat so as to shorten their lives. Not only is the amount of proteids that we take more than enough to support life, but it hastens death. I believe the time will come when the years of the Psalmist will be far exceeded and man's working capacity much increased. When that time comes it will be the result chiefly of prophylactic methods and especially in the matter of diet, particularly in diminishing the consumption of the two great enemies of life, alcohol and proteid excess. For some years my household has followed the practice of having meat at Sunday dinner alone. I feel stronger and better than I did before we adopted this plan. We have not grown thinner nor weaker, and our capacity for work has not diminished. I believe attention to these matters to be far more important than the study of drugs.

He asked that the essayist, in closing, explain how he harmonizes the statement that the results of proteid metabolism are precisely the

same whether the proteid be of vegetable or of animal origin, with his other statement that we know nothing about many of the stages of proteid metabolism.

Dr. R. T. Sloan, Kansas City: I merely want to express the wish that such papers should be a part of the program every year, for it is certainly true that the matter of diet has been sadly neglected and the opinion of the profession on the subject is in a chaotic condition. When we consider that the class of practitioners who depend chiefly upon diet are those who administer large amounts of proteins under certain conditions, we are at a loss to account for it. Our neurologist will take a neurasthenic patient and stuff him with proteid matter, asserting that he gets results; but whether the result is due to psychic influence or to the effect of the diet, I cannot say. This has always seemed to me wrong and I have so expressed myself to such practitioners; yet they get results where I have failed, and point with pride to those results. I believe the idea expressed by the essayist is preëminently côrrect. It is the proteids that throw the greatest strain on the organism and it is this which is responsible for most of our dietetic errors.

Dr. John M. Bell, St. Joseph: In my work on intestinal diseases, I have found that a proteid diet is essentially stimulating and the majority of neurasthenics are not benefited by this stimulant. Most gastric cases have a neurasthenic tendency. One drawback to the use of proteids is the number of end products which are generated as a result of faulty metabolism. As far as the proteids from the animal and vegetable kingdom are concerned, there is a difference. While the end product is much the same in maintaining nutrition we find that the vegetable proteids are much more easily digested. It has been shown that they can be digested in thirty minutes, at least they are passed out of the stomach with the abundance of carbohydrate matter in their make-up. This not only takes work off the stomach, but the animal proteids require a much larger percentage of hydrochloric acid and require from an hour and a half to four hours for the process of digestion, so that the stomach has practically no rest. Because of the general influence that it has upon the nervous system, there is much to be said in favor of a large carbohydrate diet and a small proteid diet.

Dr. R. T. Sloan, Kansas City: I would ask the last speaker for his authority for the statement that the vegetable proteids are more readily digested by hydrochloric acid than those of animal origin. The idea is new to me and I am skeptical.

Dr. John M. Bell, St. Joseph: I do not recall just where I found that statement, but I make it a routine practice in all gastric cases to make a chemical examination of the stomach contents and, in the bulk of cases, of the bowel contents. I find that this rule holds with the average stomach, *i. e.,* the complete absence of vegetable proteids in thirty-five minutes, and, on the other hand, the long retention of animal proteids, which will sometimes be there several hours, even in the pres-

ence of large quantities of hydrochloric acid. Usually there is present in these cases neurasthenia, some gastroptosis or some psychic disturbance. A carbohydrate diet has essentially a sedative influence upon such cases.

Dr. Wolf, in closing: A restricted proteid diet only applies to full-grown individuals who are in perfect health. It does not apply to those whose condition is that of under-nutrition. In those who have lost much weight you will have to give an excess of proteids. This standard applies especially to people of 40 years and over. That is the time when the excretory organs begin to get tired and when it is time to call a halt. I believe we would all live longer if we, after we are 45 years old, would live according to the new standard of diet. While young, the organs will take care of the excess of proteids so long as the individual is in perfect health. Since I have been living more and more according to the new standard, I have felt better than I have in years. I used to ache in all my limbs in the morning, but since I have cut down the proteids, this aching has disappeared. Dr. Sloan is correct; the neurologists over-feed all their patients and they make no distinction between the cases. I recall one case of neurasthenia and hysteria. The patient was a woman 60 years old, who was put on beefsteak three times a day, and she continued to grow worse until she was put on a proteid restricted diet; she has since been better than for years. Of course, when you have a patient in a state of under-nutrition, you have to force the diet to put on weight. Dr. Froehling says it makes no difference whether you eat animal or vegetable albumin. I believe that is correct. But when we eat animal albumin we consume a highly stimulating food, and that is not true of vegetable albumin. Meat contains large quantities of extractives and these extractives are highly stimulating; that makes a difference between the animal and vegetable albumins. That the body has means of disposing of an excess of proteids is entirely true. But at a certain age that power of disposing of this excess is exhausted. Dr. Bell says that the vegetable proteids are more easily digested than the animal proteids. I do not believe that is correct. We know that it is highly difficult for the stomach and intestines to dispose of cellulose and there is a much larger waste from a vegetable diet than from an animal diet. The animal diet leads to a stimulation of the gastric mucosa and under an animal diet the glands will secrete more hydrochloric acid. I think that is the reason that on a meat diet he finds more hydrochloric acid than on a vegetable diet.

PROBLEMS AND POSSIBILITIES OF A COUNTRY PRACTITIONER FROM A SURGICAL STANDPOINT.*

By T. F. Lockwood, M. D., Butler, Mo.

In order to break into the Surgical Section, I must, of course, come forth with something surgical; therefore, I have chosen, for my passport, fractures and their treatment. This is an old, old story, but it is like the Gospel—it grows brighter and better with each subsequent telling. There is no one surgical subject more thoroughly discussed and yet teeming with newer interests and newer ideas, than the subject of fractures. It is the index finger that points the young physician toward the sun-lit hills of surgical fame. The first surgical case of any note of the young doctor, perhaps, was a broken bone. From that very hour, this learned medical larva could feel himself rapidly hypertrophying into a Wyeth, a Sayre or some other great surgeon. It is well to be thus inspired with such feelings; it is a normal stimulus to reach the professional goal which the ambition of most progressive physicians craves.

There is no part of the science of surgery so intricate and wrought with so many lamentable difficulties as external or extremity surgery. I have the utmost respect for abdominal surgeons, for I have realized their usefulness with much appreciation, in my own family, but the internal surgeon may do his work with impunity, and with assurance that if his patient lives or dies there will be no visible scars or deformities to mar the beauty and contour of the living form or unsightly contortions and contractures to meet the public gaze at the coffin lid-laying, nothing, whatever, to detract from the solemnity of the occasion. He may do a very clumsy piece of work inside the abdominal cavity or elsewhere about the trunk, and cover it up deceivingly well with a beautiful external incision with its hidden sutures, or with ends cut uniformly pretty; but not so with the poor, lonely, country bone-setter or surgeon who is called to adjust the fractured framework of a man. He is deprived of such helpful bulwarks as the former and must necessarily do his work in the open and on the surface where inspection is freely invited at all times. You, who apply your trade as country surgeons, let me implore you to use the best means and mechanical appliances ability can dictate. It is you who do this kind of work that are frequently made defendants in damage suits. The abdominal surgeon is most immune from such attacks by the fortification afforded above, and by having at his command several assistants to aid him in the operation and in the courts if need be. It would be far safer, from a damage

*Read in the Surgical Section, Fifty-second Annual Meeting, Missouri State Medical Association, Jefferson City, May, 1909.

point of view, to murder a patient on the operating table under the disguise of an abdominal operation, than to maim in order to cure a fracture adjustment. The former event would be buried with the silent past, while the latter would remain a living reminder of our bungling work and a walking interrogation point for snitch lawyers. It is the cosmetic effect that is most desired by the fastidious people, rather than a physical and functional perfection.

The osseous system, as you know, plays a very important part in maintaining the cosmetic contour of man. It is the foundation or groundwork for the specific shape of the body, and any deviation of this framework from the natural model is readily noticeable in the outward appearance of the individual. If the surgeon fails to repair an injury as neatly as nature shaped the parts in the beginning, he is held responsible for the defect, and either sued or censured for not being able to compete with the Great Master Mechanic in doing His plastic work of moulding and modeling man in his primitive creation. The laity expect too much of the surgeon in treating fractures. It makes no distinction; whether a simple, compound, comminuted or impacted fracture, all are held with the same degree of interest and expectancy; the most significant is expected to heal with the same good results as one of less magnitude.

There are two classes of surgeons, the cutting surgeon, found about cities and hospitals, and the manipulating surgeon of the common rank and file of the profession throughout the country districts. It is the latter to whom I appeal more earnestly, for they constitute about three-fourths of the entire profession. Every country practitioner belongs to this class. You of the bone brigade, listen attentively while I relate from an experience of twenty years of practice, principally in the rural roughs of the Ozark mountains. Being called miles in the country to treat fractures in the early part of my career, I would set a broken bone, apply my dressing and depart with instructions to report, or if it be an ambulatory case, to call at my office in a few days for inspection and redressing. About the time they should have reported, inflammation, pain and swelling would have subsided and they would be feeling so much better that it seemed folly to them to make a trip to my office just to report, when all was seemingly well with them. I have since realized that the lesson learned from such negligence profited me much, but it was at the precious expense of the patient's welfare, due, of course, to their disobedience of orders. When inflammation and swelling abate, when the patient feels too well to report, is the very time we should watch closely after our patient's welfare. When the swelling subsides we lose the mechanical effect afforded by the splint, immobility and support are both lost by shrinkage of the tissue, allowing the bandage to slacken, or if it be a plaster cast, so much the worse by permitting the muscles and tendons to have too much play beneath the cast, thereby allowing displacement and a lapping of the ends of the fragments by

muscular contraction. It is during the agglutinating period, which is more active the first ten days, that we must train the broken bone if it be a leg, or an arm, in the proper line for natural results. In fractures about the face, especially the nose, be extremely careful to avoid deformity, which, in many cases, is inevitable, for if there exists the slightest disfigurement of the physiognomy the patient will hold an uncompromising demeanor toward you as long as he lives.

As the subject is too lengthy for a limited essay, I shall only touch on the salient points of some of the most difficult and dangerous fractures to treat, those that may leave death and deformity in their wake.

I shall offer as the introductory of the series, fracture of the skull. There is but little to say regarding this class of fractures beyond the surgical care of the soft parts beneath, which is a frequent concomitant of such injuries. I shall relate but three of my most recent cases to illustrate the magnitude of such fractures.

First: A premature explosion of a blast in a well, blew a stone into the frontal region of the head of a well-digger, crushing in a hole the size of a silver dollar at the lower border of the os frontis near the junction of the nasal bone. Both eyes were destroyed, one bursted and torn out entirely, the other blinded by the entrance of pieces of stone and powder, but some months afterwards a peripheral iridectomy was performed by a Kansas City specialist and sufficient sight restored to enable him to get about. I removed broken fragments of bone, dirt and stone, with about half an ounce of brain matter from the left lobe of the anterio cerebri. After cleaning out the debris and smoothing off the broken edges of the cranium, I packed the cavity with five per cent. iodoform gauze, arresting all hemorrhage, replacing it every day, after the second day, for a period of two weeks. The wound healed by granulation as there was nothing remaining to make flap, as the integument had been destroyed by the impaction. I might mention incidentally, to show the miraculous recovery, that his right hand was torn off and the forearm amputated midway between the hand and elbow. Nature did herself proud in repairing this extensive wound in the cranium by bridging over the deep chasm with new skin, and, too, without the aid of a silver plate as predicated by a few fossilists present, and the patient made a rapid recovery, except a slight mental defect apparent at times.

Second: A fork trolley, weighing about 50 or 60 pounds, fell twenty-five feet from the crest of a hay-barn, striking a twelve-year-old boy on the frontal eminence of left side of skull, driving a hole in the head, two and one-half by one and one-half inches. The fractured bone was of many pieces and greatly depressed, but held intact by the eggshell-like fracture. After enlarging the scalp wound, I removed the key fragment and, with ease, removed the remaining bones, of which many were hinged to the cranium by a marginal unimpairment of periosteum. The brain substance was little disturbed, as the meninges withstood the blow exceedingly well. After washing out a few hayseed and hair with

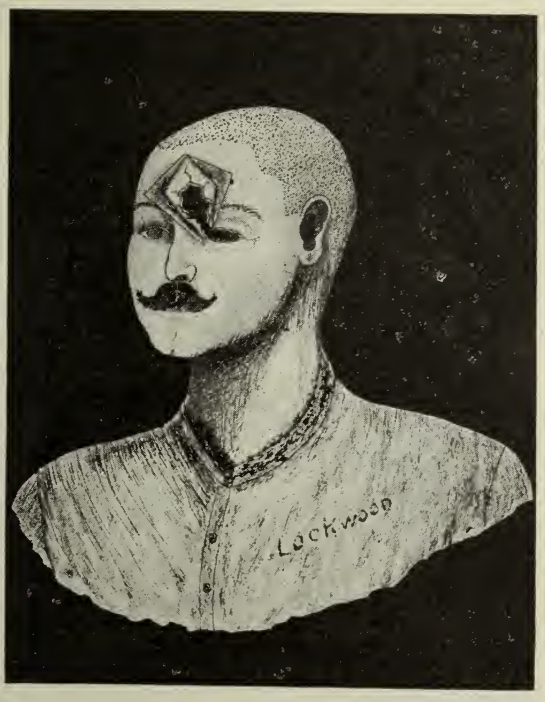


Fig. I.



Fig. II.

sterilized water, and detaching all spicula of bone, I packed the cavity with gauze as in the preceding case, suturing the scalp over the packing, leaving a few ununited sutures at the lower end of wound by which to remove the gauze at a subsequent dressing. The mythical silver plate was dispensed with in this case. I merely mention the silver plate for the edification of the young practitioner, for such treatment of skull fractures has been imputed to country surgeons. In less than two weeks this lad was able to ride ten miles to town with no ill effect therefrom.

Third: A man, fifty-five years old, was injured by an explosion of a stationary boiler, as follows: A hole two and a half inches long, by three-quarters of an inch wide, was broken in just above the occipital protuberance, cracking the skull in various directions radiating from the wound proper, ranging from one inch to two inches in length. The meninges were also lacerated, considerable hemorrhage resulting. There was complete blindness from pressure as the injury was directly over the area of sight. His nose was broken, upper lip cut in twain, face, neck and body in many places were severely scalded by hot water from the bursted boiler. In addition to all this, his right thigh was fractured in two places. When I reached him two hours after the accident had occurred, he was pulseless and in a state of profound collapse. With the aid of good assistants, I gave heart stimulants with the needle and operated during shock, while hot bricks and hot water bottles were constantly applied to establish reaction. I shaved the entire head and washed out sand and cinders from the wound with sterilized water, and after cleaning the scalp and wound thoroughly, I enlarged the scalp incision, peeling back the scalp that I might see more clearly the field of operation. Broken bone and blood clots were removed with a small amount of brain substance adhering to the latter. After removing all foreign matter, I again irrigated the field with boiled water and proceeded to pack the cavity with gauze, closing the scalp wound with silk sutures, leaving a space of one and one-half inches at the lowest point of wound as in the two preceding cases, for the removal of dressing and replacing same. The external surface of wound and for several inches roundabout, was covered heavily with a dusting powder composed of equal parts of calomel, acetanilid and boric acid. Iodoform gauze, with a cotton cap, held in place with the usual head bandage, completed the dressing. The leg was treated with the old method, the weight and pulley and sand bags, a method I shall mention later on. I am proud to proclaim to you, that this man made a complete recovery with perfect vision and with scarcely a perceptible shortening of the limb.

I report these cases of skull fractures, not boastingly, but because of their surgical importance and to show the wonderful results of nature in her faithfulness in restoring damages done to the human anatomy. There are many such cases, and even greater than these, recovering in the hands of country doctors every day, and had you city surgeons heard

of them, you would have long since grown envious of their skill. This wonderful work is being done in the surgical field by country physicians, and, too, with nothing but improvised conveniences of their own natural resources. Do not look with professional derision upon the country doctor who attends this society, who may occupy a back seat; he may be an unpolished pearl gleaming with experimental knowledge within himself that would be a grand inspiration to any surgeon to possess.

The next series shall be: Fractures of some of the long bones and their treatment. This form of surgery places a greater responsibility on the surgeon, from public criticism, than any other class of work he

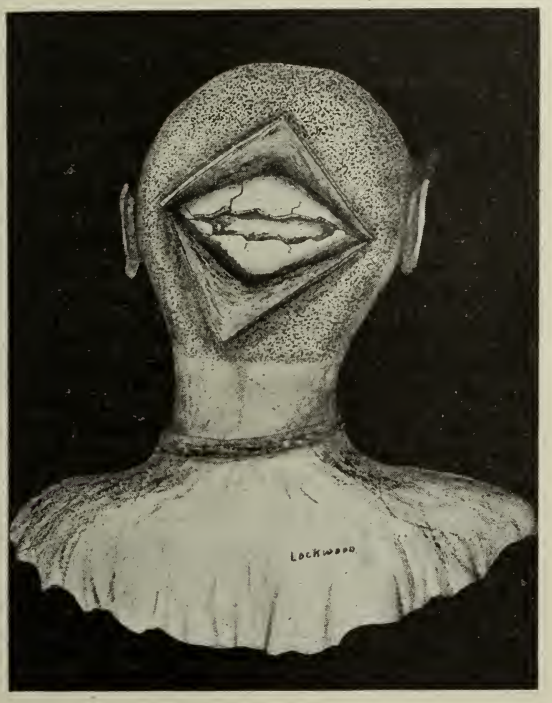


Fig. III.

may be called on to perform. The intricate cases just related, elicit less public comment than a simple fracture of the forearm. If the patient dies from the former injury, it was nothing more than the laity expected, and if he gets well, it is not slow to credit results where it ultimately belongs. But if we should have a Colles' fracture in a subject with a tuberculous, rheumatic or syphilitic diathesis, and get contractured fingers and ankylosis of the wrist and joints, a deformity deplored by all surgeons, we have rated ourselves before the public as incompetent to do the work demanded of us as surgeons.

While speaking of Colles' fracture, let us continue through its course of treatment. This fracture, as you know, occurs at the lower or

carpal end of the radius and I shall not go into details of how it is produced or what takes place, etc., for it is more easily diagnosed than any other fracture in the whole body; the "fork deformity" is nearly always present and noticeable at a glance, therefore, I shall pass at once to the treatment.

Having first familiarized ourselves with the anatomy of the parts, we know what displacement of fragments we have to deal with after ascertaining the form of fracture, or in what direction the line of fracture runs; we have a strong assistant grasp the forearm near the elbow, and taking hold of the patient's hand, as if going to shake hands, if the right wrist is broken, use your right hand; if the left, use the left hand. In doing so, we keep the hand of the patient in a natural, relaxed position midway between supination and pronation. Having grasped the patient's hand firmly, and with the free hand to steady the fragments, slowly pull on a straight line with the forearm, gradually increasing the extension until the hand is extended to its utmost. If you are not a strong man and your patient be a subject of great muscular strength, always administer an anesthetic, for you must, by all means, separate the fragments from all interposing structure before allowing them to assume their coaptation. Holding the hand at full extension, slightly supinate and pronate the hand in quick succession to disengage any hanging tissue that might be reluctant to free itself, passing the free hand over the seat of fracture, gently adjusting the fragments, and when all is well, lay the limb onto a previously-prepared splint of your choice, provided you do not prefer the plaster of Paris splint, which requires a different method of application. This routine management applies equally as well to fractures of the arms. Extension and counter-extension, is, indeed, essential to facilitate perfect union in fractures of any long bone. This is where many bad results have their origin, by not overcoming muscular contraction throughout the progress of solidification of bony union. I have long since abandoned the plaster splint in the treatment of Colles' fractures. It fails to yield to the conformity of the member if there be secondary inflammation and swelling of the parts, constricting and strangulating the hand, requiring an immediate and unseasonable removal of same. It prevents easy and oft inspection that all such fractures must have to insure normal results. The only bad result I ever had in treating this fracture was when I used the plaster of Paris cast. I have had excellent results with its use notwithstanding, but I do not believe it is as commendable as other dressings. It matters not so much what kind of splint used, as we all have had many good results from our favored splint, which constitute various forms, showing that the splint plays a minor part in the restoration of function and perfection of the hand and wrist, but we must first adjust the fragments correctly, and see that a normal position is persistently maintained throughout the entire reparatory process. This we can only do by frequent inspection, many cases requiring daily attention.

My choice of splint in treating Colles' fracture, is the common wooden splint, extending from a little over half way between the elbow and wrist, down to the lower border of hand. There are many patent splints used for this particular fracture, but they afford no better results than obtained from the board splint. Pad well the anterior and posterior surfaces of the limb with clean, soft cotton. In addition to

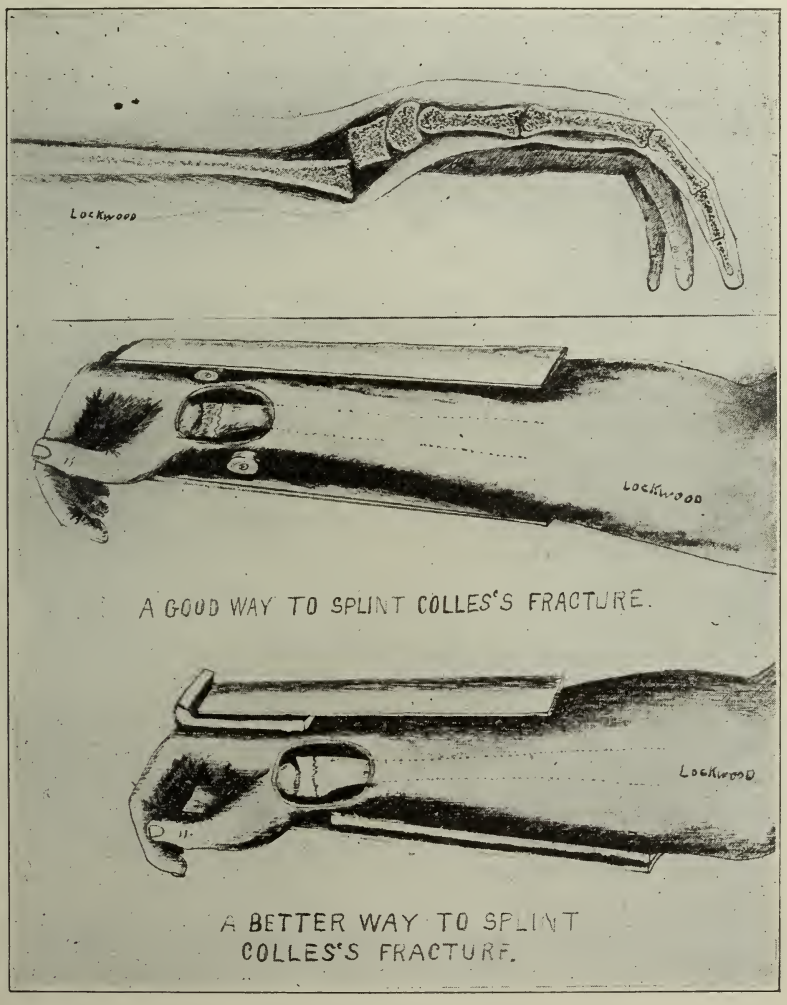


Fig. IV.

this, cut a piece six inches long from a narrow roll of absorbent cotton, placing the pledget on dorsal aspect of hand, extending from half an inch to one inch below the fracture-line, down to the knuckles. Place a like piece on the anterior surface of forearm, extending from seat of fracture, upwards the full length of splint, thereby maintaining a fulcrum effect at the point of fracture, over-correcting the "fork" deformity

if possible. Some prefer a roll of cotton or a roller bandage about the size of the thumb, placed between the splint and forearm one inch above the line of fracture, and a like compress on the dorsal side of wrist just below the seat of fracture. This is not bad treatment, but there is more danger of strangulation of the blood vessels by a more abrupt pressure than we get in the former method. The fingers drop naturally over the end of splint, relaxing the muscles more completely than any other position, because this is the attitude of physiological rest for the fingers, besides allowing free movement of same, which exercises the tendons that pass the field of fracture, preventing blood stasis and increasing blood appropriation to the repair of the parts. An ordinary roller bandage is now applied and the hand carried in a support suspended from the neck. Since using this treatment, with frequent inspection so emphatically essential, I have had no deformity of any consequence resulting. There may be a remote deformity develop gradually and slowly in young subjects as they approach maturity, however; therefore we should guard well our prognosis, however perfect the job may be when turned out. This deformity is inevitable in rare cases, and the surgeon is in no way responsible for the condition. It is due to absorption of the radial epiphysis in the effort of nature to repair, arresting the development of that bone, while the ulna continues to grow in length without hindrance, the radius failing to keep pace with it, consequently there slowly develops a curvature of the forearm to the radial side, the cause of which to most patients is incomprehensible. We do not get such deformity in the adult.

The next fracture of surgical importance to be considered, and one that gives the surgeon no little anxiety, is that of the lower end of the humerus in close proximity to the elbow joint. If the break be confined to the shaft of the humerus we have less difficulty in maintaining normal coaptation, but if either condyle, or both, be broken, then the situation becomes more grave. A fracture in the elbow joint used to tax my limited knowledge to its utmost in arriving at a definite conclusion as to what kind of a fracture I had to deal with. It was as difficult to determine as a fracture of the neck of the femur and remained thus until I familiarized myself with the anatomy of the elbow joint. I kept before me that part of the skeleton until I could close my eyes and draw a picture of this particular part of the anatomy. I have examined and manipulated hundreds of healthy or normal elbow joints just to familiarize myself with the normal contour of the joint that I might enable myself to recognize readily any deviation from the natural shape of the bones forming the joint. The most frequent cause of disastrous results in treating these fractures, is because we fail to properly adjust them in the primary treatment. We do not know whether we have fixed the fragments as they should be or not, because of our lack of familiarity of the parts. Let me emphasize the necessity of every young physician present, and older ones as well, if they find themselves rusty, to get

an arm of a skeleton, if they do not already possess one, and study its mechanism until you can see its shape in your dreams and in your waking moments, and then study the normal arm, manipulating the flesh and tissues round about the joint until all is so familiar to you that a mere touch would reveal the slightest deviation or deformity. If you will do this you will never regret the time taken in the study.

The treatment of elbow fractures has not changed and never will change, materially from the plans adopted by surgeons of an early age. The great progressive strides made in surgery in the recent past, have not been along the line of bone surgery, but from the wield of the knife, the

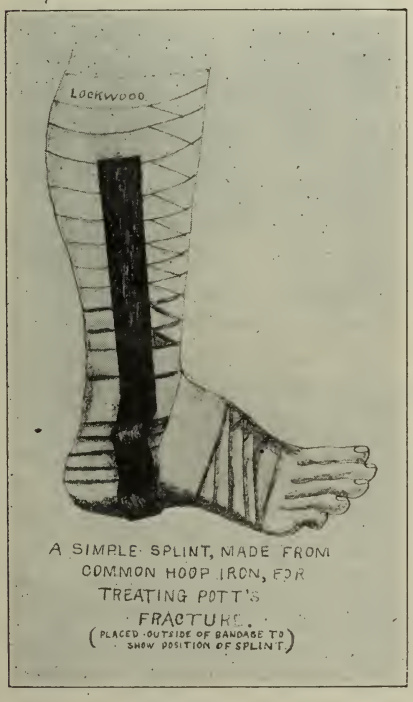


Fig. V.

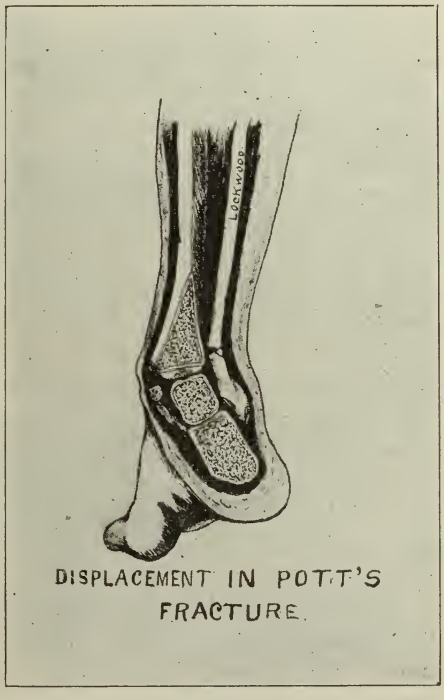


Fig. VI.

incision and the suture, the hemostat and ligature, and from a burning desire of surgeons to accomplish surgical feats as yet unheard of and that cannot be found in the limited field of bone surgery.

The right angle splint, either flat or cup-shaped, is universally used by most surgeons. Some are made of felt, others of leather, wood and gutta-percha. If the fracture of the humerus be in the condyloid region, or if either condyle is broken, or if the fracture in any way connects with the joint, I place the forearm at an angle of about forty-five degrees, applying a splint, of course, of like angle. This is not original with me, however, neither are all the thoughts in the foundation of this essay, but I am merely narrating that which has long since proved the

best treatment, not only in the hands of those formulating the methods, but in my own hands from practical application. By putting the arm in this angle you allow, as you know, the olecranon partially to assume the posterior fossa or depression, thereby helping in maintaining the relative position of the joint. The flexor region of the arm must be well protected with cotton before applying the bandage, to prevent strangulation. This fracture requires close inspection from time to time, and after the end of the first week, passive motion must be gently but persistently practiced every day to prevent ankylosis of the joint. No fracture can put a patient out of physical commission like an ankylosed elbow joint.

I shall now consider a frequent fracture that takes place just above the ankle-joint, termed Pott's fracture. Taking for granted that all are familiar with the pathology of this fracture, I shall enter at once into its treatment. This, like Colles' fracture, is readily recognizable by a peculiar deformity existing—eversion of the foot, preternatural mobility in the fibula two or three inches above the tip of the outer malleolus and much pain on attempt at using the foot. If it is nothing more than a Pott's fracture, simply a break in the fibula, the adjustment is unlike that of other fractures of long bones inasmuch as it requires but little traction on the foot in its adjustment, as there is no shortening of the limb, or overlapping of fragments, the tibia, the chief support of the leg, being intact. It is only when both bones are broken that we need to enforce extension and counter-extension in setting of the limb. The only thing that may appeal to you in treating this fracture, is the simplicity by which it may be treated. I have never had untoward results in a single case in all my experience. Simplicity in the adoption of mechanical appliances, is the true art of bone surgery. Extension, immobility, rest and comfort, are the chief aims sought in treating fractures, and all are essential in caring for Pott's fracture, except extension. From the physiological construction of the ankle-joint, and the peculiar pathological condition existing in Pott's fracture, shortening is seldom looked for in a simple fracture of the fibula. The length of the tibia, the larger bone of the leg, is unchanged and we have but to line up the foot with the limb, over-correcting the tendency of eversion of the foot, applying an immobilizing splint to the outer aspect of leg, and our dressing is completed. One of the best splints I have ever used, one that meets the economical conveniences of country doctors, and one I prefer above all others, is a splint made from hoop-iron. Take a piece about eighteen or twenty inches in length, and from one inch to one and a half wide, hammered out to fit the contour of the leg, over the external malleolus, turning under the heel and ending at the inner margin of sole of foot. Cover well the foot, ankle and leg with soft cotton, then apply the splint, bending here and there till it adjusts itself perfectly to the parts, holding it in place with an evenly applied roller bandage. Applying the splint to the outer part of limb, gives better advantage in over-correcting the eversion of the

foot, thereby bringing in closer proximity the separated ligaments that occur in this fracture. There is no extension necessary but a constant vigilance is required to see that the desired position is maintained throughout the reparatory period. If this is done you will be rewarded with favorable results.

Fractures of the femur, either of the shaft or neck, require greater skill in adjustment. We have more powerful muscles to deal with

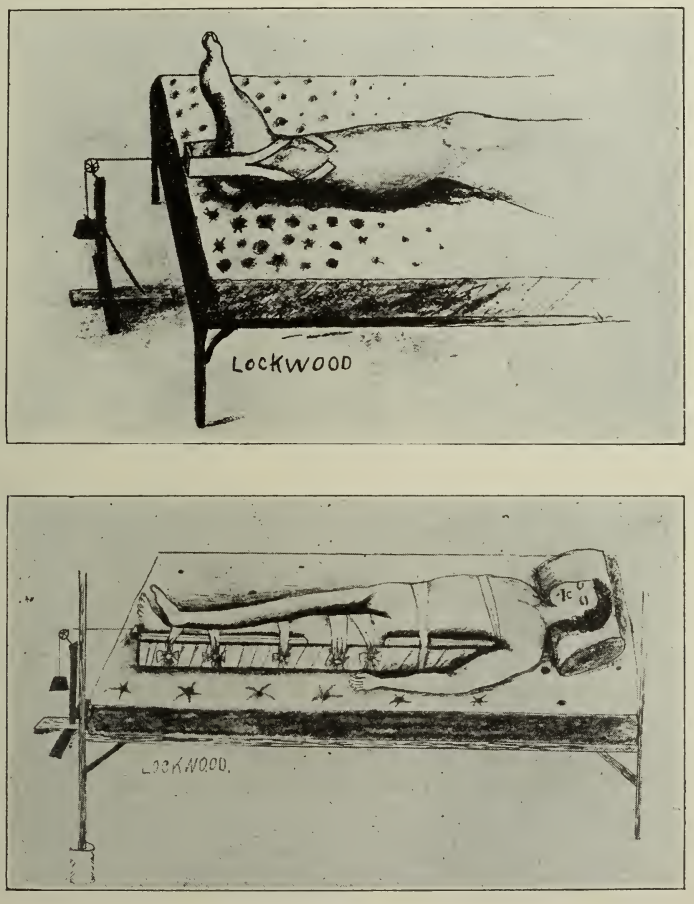


Fig. VII.

here than of any part of the body, and owing to the deep and dense structure covering the field, we cannot be so accurate as to the character of the fracture, and our anxiety deepens with the thought and possibility of a permanent cripple haunting our memory of the critical past, throughout our existence. In fractures of the femur, with our mind's eye delve deep into the structures surrounding the fracture, and with digital assistance arrive at a conclusion, though much mystified by obscurity, adjust the fracture as best we can, apply our dressing and can only

hope at best, for good results to follow. No one knows what results have been obtained till the dressing has been permanently removed. There is no fracture requiring greater extension and counter-extension, and more prolonged, than fracture of the femur, more especially the neck, and there is no better appliance for this purpose than the old-time weight and pulley, let the splint be what it may. In fractures of the neck of femur, we must endeavor to procure double extension, one at right angle with the other. We must overcome muscular contraction that tends to pull the broken fragment toward the body, over-lapping and shortening the neck, and at the same time we must extend the limb on a line with the body to overcome an upward tendency of muscle activity. This you get more perfectly with the combination of Buck's extension and Hamilton's long splints. The long splint must be padded in a manner so as to hold the splint well away from the hip near the joint that we may have ample room to anchor the thigh to the board with a broad bandage well up in the crotch, giving a fulcrum leverage where it is most needed. I prefer the weight and pulley appliance attached to the leg by adhesive plasters independent of the long splint. When this dressing is adequately applied, we do not need to disturb it unless it be to tighten up the crotch bandage occasionally. The extension must be sufficient at all times to hold the limb an equal length with its fellow. This, of course, requires frequent comparative measurement of both limbs. This same splint may be used in fractures of the femur anywhere in its shaft, but I prefer a less cumbersome one. The weight and pulley, with adhesive plaster attachment, as described, is par excellence in maintaining extension in fractures of the thigh and leg, but as a splint I prefer short coaptation splints, such as are made of wire, fiber or leather. If I have none of these at hand, I substitute the old infallible wooden splint, extending from one joint to the other on either side of the fracture, held in place by adhesive strips. This dressing is easily applied and permits frequent inspection of the parts. When shrinkage slackens the bandage, it is at once discovered and corrected, by tightning up the adhesive strips and bandage before any damage is done. With extreme precaution in the application of these old-time dressings, which have been but slightly revised by experimental use, will be found the best safeguard against disappointment and deformities found in the realm of bone surgery.

THE MISSOURI STATE MEDICAL ASSOCIATION: WHAT IT SHOULD MEAN TO A MISSOURI DOCTOR.*

By Tinsley Brown, M. D., Hamilton, Mo.

The Missouri State Medical Association has been in existence for fifty-nine years, but for much of this time it was so merely in name. To become a member and participate in the proceedings of each yearly meeting, it was necessary to have a certificate from some local society before the doctor could register. In a few counties there were organized societies, and in many portions of the state there were district societies. All of these were independent of each other and were carried on without system or any general rules to do systematic work and bind them to the State Association. There was no foundation for our State body, and consequently it meant but little to the Missouri doctor. The custom was for the doctor who desired to attend a meeting to secure a certificate from his local or district medical society, fill out a certain blank and attach it to his certificate and accompany the same with the annual dues, which generally made him a member for that year. If the doctor was not a member of a local society, he must be indorsed by two members of the Association. This procedure had to be repeated each year. When the plan was conceived by the American Medical Association to make the county society the starting point for all who desired to be members of the State Association, everything was in a chaotic condition as far as our State was concerned. I do not believe there were more than a dozen county medical societies in existence. In 1901 the first step taken was to make the county society the unit of organization, and the constitution was adopted at St. Joseph in 1902. It was plain to the promulgators that if the proper effort was made our Association would mean much to the Missouri doctor. During the years of 1902 and 1903 the officers of the State Association made a great effort to have county societies organized, and at the meeting held at Excelsior Springs in 1903, thirty-six county societies, four district and one academy of medicine sent delegates to the meeting, out of a possible 115. From this time the Missouri State Medical Association meant something and now, at this meeting, nearly every county will be represented. Organization means progress. Frequently the doctors of the same county were unacquainted with each other, and the state at large was a foreign country to many. Instead of being interested about medical societies and organized efforts to better his own knowledge, he staid at home and spent his time in abusing his competitor, who, in his

*Read before the Missouri Society of Medical Secretaries, Jefferson City, May, 1909.

eye, was a thief and a vagabond. Many did not know the advantage afforded by frequent association with other doctors, but staid at home to secure business while his neighbor was away at the medical association, or was afraid that he might lose some of his patrons that he had secured in this manner. To such a doctor our Association means nothing, and the profession means nothing to him but the money that he might secure. He was in a rut and will stay there. Such a one is apt to imagine that his medical education was finished at graduation, but the fact is he grows smaller as years pass and is, like the bird, larger in youth than in old age. The State Association should mean much to every doctor, and those who do not become members of the county society and the State Association cannot do as good work as those who are active in society work. When reorganization was commenced in our state, there were between three and four hundred doctors who belonged to our Association out of a possible six thousand, and now, after about seven years of strenuous work, scarcely half of the doctors in active practice have been induced to unite with the county societies, and more than one-half of these are inactive, cannot be induced to take part in the scientific work of the county societies and have no time to attend the State Association, either on account of overwork, or from the fear that if he should be absent he might lose the patronage of some one that he has secured while his neighbor was attending a medical society. To such a doctor the Missouri State Medical Association can mean but little.

The State Medical Association should be near and dear to every doctor who has the good of his profession at heart. The county medical society is the unit of the large body, and each member can get the benefit of what it can accomplish. All laws that have been enacted, regulating the practice of medicine and surgery in Missouri, have been brought about by the efforts of our Association. All laws on sanitation came from the same source. The pure food law came from the efforts of organized medical men, backed by ours and other state medical associations. The better education of the physician has come from persistent efforts of such associations as ours.

The Association should mean much to the Missouri doctor as it is the source of much information. Reading the text-books and the medical literature of the day should not be discouraged, but much can be secured from exchange of opinions that cannot be learned by reading. The physician who does not mingle with other members of his profession by attending his county society and state association becomes circumscribed in his habits, is not up with the times, and thinks the whole world's knowledge is within himself. It should mean much to the doctor who is in good standing in his State Association, in both a social and business way. No first-class insurance company cares to have a doctor make examinations who is not an association member. No railroad should want a surgeon who could not be made better by being an

active medical society member. It is also a mark of respect, when away from home, to be able to show that you are an Association member. One of my doctor friends was on the Pacific coast not long since, when he had occasion to secure some money on a draft. There was no one near who could identify him, but fortunately he had his cards showing that he was in good standing in his medical societies. This was sufficient, for he secured the money without delay. In some states in order to register by reciprocity, the doctor must show that he is a member of his county medical society, as I have received letters from both Colorado and South Dakota in reference to those who wished to register in this way.

Membership in the Missouri State Medical Association should mean much to the doctor, as it protects him in malpractice suits, to a certain extent. In many instances bad advice has been given by some doctor, in order to get even with his neighbor, or from some motive that would not exist if he was an active member of his county medical society and state association.

While scientific work is one of the main objects of our organization there is another that is hardly secondary to this, and that is to promote friendship and good-will among the members. Blackmailing, strife and envy should be banished without the walls of our Association. The best of doctors are liable at any time to be victims of blackmailing lawsuits, from the ill advice of one of the profession who has not the good of his fellow physician at heart, and who is an injury to his calling. The large acquaintance that a doctor makes, by membership and attendance of our Association, is worth more than can be calculated in dollars and cents. I would regret exceedingly to be deprived of the friends that I have gained by my long membership in our Association. I only wish that I could do more than I have in furthering the good-will and friendship of my chosen profession. Many that I have met here and elsewhere, have passed over the silent river, from whence no traveler returns, but their fond memories remain with us. O memory! if it was not for thee, how sad this life would be.

Our Association means much to the honest, painstaking doctor who can see something beyond the mere matter of money, and is always trying to be better prepared to relieve pain and cure the sick. It means much to the physician who can leave his professional duties long enough to attend this Association, in order to be able to do better work in his county society. He is sure to be made broad-minded and can then, in many instances, see his own faults as well as those of others.

THE MISSOURI STATE MEDICAL ASSOCIATION: WHAT IT SHOULD MEAN TO THE STATE AT LARGE.*

By E. C. Grim, M. D., Kirksville, Mo.

This subject, when considered in all its details, is far-reaching and vitally affects every home in the state in health and happiness.

At some time in the near future, to be a member of this Association should denote to the public a perfect doctor, or as nearly so as a man may become; one whose paid duty it is to keep the people well rather than treat the sick.

The state should want the physician to come into politics to make more and better sanitary regulations, and more and better boards of health, and invest them with the authority and power to prevent and stamp out disease.

The lawyers have been the predominating men in politics and naturally have devoted their time to matters of equity and crime. They have given us an admirable system of courts from that of the justice court to the international tribunals of arbitration.

It is not a criticism to say that it has been impossible for legislators to carry out the sanitary idea, because only a few physicians let it be known that they wanted any laws at all, and those that did so were pretty well divided. Hence, the condition of medical legislation. But when our Missouri doctors get broke to their new political harness, and when the great profession of the state becomes completely organized, the public will have health laws to live by. They will have local boards of health in every village and county with a health officer who is qualified to superintend the sanitary conditions of his district and who is a grand jury in himself to find the offenders against public health. These things can only be brought about by the combined efforts of the members of this Association.

When the health laws and the courts of health are a reality the public will go to the physician for advice in matters of health just as he now goes to his lawyer for advice to keep him out of court.

Dr. McCormack, in his recent lectures over our State, called attention to the great sacrifice of life, usefulness of the individual and money, from preventable disease; the misery and suffering and heart pangs from these untimely deaths cannot be estimated. We have no statistics in Missouri, as you know, but it is safe to say our loss is equally great.

*Read before the Missouri Society of Medical Secretaries, Jefferson City, May, 1909.

Our people have a right to expect us to blot out these contagious diseases.

The people should have pure air to breathe, free from dried sputum and microbes; they should have pure water and no whiskey to drink, food to eat that is clean, well preserved and wholesome. Flies, mosquitoes, rats and other contagion-bearing animals should be exterminated. The houses should be built from a sanitary standpoint and the cities and towns should have proper sewerage systems.

The State should expect the medical association to do these things, and when they are done most of the untimely deaths will have been prevented and our expectancy and usefulness will probably be doubled and we will all be healthy, wealthy and happy.

THE PROSECUTION OF IRREGULARS: FROM THE EXPERIENCE OF A COUNTY SECRETARY.*

By Marshall A. Smith, Gallatin, Mo.

When requested to prepare a paper on this subject, I felt some hesitancy in acceding, not because the subject was not of great interest to me, but because there are others present, no doubt, with greater experience in this work, and more capable of handling this subject. However, it is a subject of interest to every one of us, for the irregular practitioner is one person that we all—to our great discomfort—meet at some time; and it is a great satisfaction when we can file a complaint, see them pay a fine, then "fold their tents and silently steal away."

The natural history of the irregular is interesting. We are likely to think it is comparatively new, or at least fostered by popular education and that this unscrupulous struggle for success is a characteristic of our day; but irregular practitioners date from the limits of time; they, like the poor, are and always have been with us. The underlying factor in their success is a readiness to promise to cure anything and everything. Their apparent self-confidence is so unbounded that even the skilled physician begins to wonder if the quack has not some secrets not possessed by the profession; but on close examination we find their principal element of success is their knowledge of human nature, and their skill in foibles and credulity.

The irregular has seldom been prosecuted because we have had an imperfect organization, have not educated the people along this line, and they, therefore, fail to appreciate him in his true light and have

*Read before the Missouri Society of Medical Secretaries, Jefferson City, May, 1909.

always deemed him a harmless violator of the law. We are now, not too soon, beginning to correct this impression, insisting on a more vigorous enforcement of the laws and the granting of more power to our State Board of Health.

I was asked to write about a secretary's experience, but it would be better in this case to say the experience of the president and secretary, for in our work our president, Dr. W. L. Brosius, was associated with me, and was a willing and aggressive worker, and together we undertook, by the direction of the County Medical Society, to rid ourselves of one of the worst of irregulars.

He came from St. Louis, established himself as a "masseur," and it wasn't long until he was treating everything—varicose veins, cancer of the stomach, diabetes—and producing, through ignorance, abortions, peritonitis and death. This man seemed to have a great personal charm or a hypnotic influence over those calling on him, and his followers grew from a few to many, and, as is the custom with the followers of these men, they were of our very best people.

When questioned he claimed to be registered in St. Louis and a graduate in medicine. The St. Louis County Secretary investigated his claims and found him neither a graduate nor registered. He, through friends, enlisted our prosecuting attorney in his behalf, who advised us not to prosecute on account of injury to our own practice. In spite of this advice and considerable loss of practice, we continued collecting evidence, employed an attorney, and had him arrested for practicing medicine without a licence. Before the trial he formed an agreement with a regularly licensed physician, of uncertain standing, who agreed, for so much per, to examine each patient, and prescribe his treatment.

Then the solution of a difficult problem was made easy, we filed charges of unprofessional and dishonorable conduct against the physician with the State Board of Health, and he was summoned to trial, and the "masseur" within 24 hours left the county and state and has not returned.

I hope no society will make the mistake we did in that case, and I write this paper with the wish that you profit by our experience and your work made easier by an *immediate* investigation and prosecution of these cases. So long as they are allowed to work unmolested, they are making their position stronger, and what was once a simple duty becomes a most difficult task, for they will employ every means to defeat you, crying "persecution not prosecution," the sympathy of the people is naturally with the "under dog," and they present endorsements from a surprisingly large number of "best citizens," and often secure the aid, rendered indirectly, of the prosecuting attorney himself.

I have given you an illustration of a difficult prosecution, the result of delay, and now have another case to show the success of early action.

Shortly after the case mentioned above was concluded, an optician came to our county. He claimed to treat diseases of the eye, fit glasses,

etc. He would examine a patient—they *always* needed glasses, and *always* had a constitutional disease needing treatment—for which $50.00 to $150.00 was charged. We filed a complaint, he was arrested and received a treatment in the justice's court, which cost him $50.00. He left the same day and has not been back.

In conclusion, I will say that we need, first: A more perfect organization; second, to watch for these cases and treat them in their incipiency; third, to educate the people concerning these things that their sympathy and aid may be enlisted on the right side. When we have attained, if we ever do, this perfect condition, we will not so often be embarrassed by the advertisement of "Dr. ————, the old reliable," in every issue of our paper.

THE SECRETARY'S WORK: FROM A BUSINESS STANDPOINT.*

By E. N. Chastain, M. D., Butler, Mo.

Permit me to thank you for the honor conferred in asking me to occupy a part of the time on your program.

As secretaries we are unique, for most other bodies have for secretaries trained business men who need little or no instruction as to their duties.

You will well understand, therefore, why a recital of my business duties will, step by step, involve instruction as to your own. I am assuming that you are all typically competent practitioners and consequently are innocent of a knowledge of business method and this will account for my primer-like and apparently obvious remarks.

The relation of a county secretary is of a threefold nature: first, to his county society; second, to other county societies; and third, to the State society or secretary.

I have adopted the following plan in my county work: At the beginning of each year every doctor in the county, who is eligible to membership, is given a page in my ledger and charged with his annual dues to the county and State society; when he pays he is given proper credit. Those who have never been members I begin to write to and urge them to become members; if I fail to interest them I ask our councilor to write them; if this fails, I then find some member of the society who stands close to this person and have him write or see him; some of these methods coupled with nice, meaty program, an open ses-

*Read before the Missouri Society of Medical Secretaries, Jefferson City, May, 1909.

sion or a banquet, will usually bring them in. I also keep a cash book which shows at all times the amount of money on hand. All bills are paid by check so that the vouchers may be automatic; my books show at any time just who has paid, when and how much. Minutes of each meeting are recorded in a book kept for that purpose, within twenty-four hours after the meeting.

Some doctors are careless about paying their dues; this requires from one to half a dozen letters, courteous, business-like, and an occasional sight draft, to get the money. Those who attend the meetings usually pay their dues promptly. My duties to other societies pertain to transfers, joint meetings, etc.

My relation to the state secretary is most important to lighten his burdens. I try to arrange my business so that I make only one annual settlement with him, sending money for all members with my report. When new members come in credentials are forwarded at once; suspensions and expulsions are reported at once. The secretary should be personally acquainted with every eligible doctor in the county, for this will greatly lighten his burdens and will always be a benefit to the state secretary. It is hardly to be expected that a general practitioner will make an ideal secretary; there is something about the genuine, scientific practice of medicine that demands mental views and qualifications entirely distinct from a typical business man. All of us must have instinctively felt this when we first decided to go to a medical school instead of into some other business.

There are only two sides to medicine, the practical, or business side, from which we derive our living, and the scientific side, from which we gain information to make our work something more than guess work. It tells us what is needed in a given case and why.

The majority of physicians have the scientific aspect of the profession uppermost in their minds in the practice of medicine; their ideal is to be a good physician.

"A physician is man's earliest and last earthly acquaintance, the faithful and silent repository of the most delicate secrets of life and the home, the medium through which God brings to the service of man all the curative and restorative agencies with which the works of creation abound; a warrier thoughtless of his own life leading the hosts of science against hostile disease bent upon the destruction of human life; a missionary preaching the gospel of redemption from habits which destroy the body, wearing worthily and keeping spotless the immaculate vestments of a profession whose sacred mission is to protect and prolong life, limit desease and relieve suffering; and whose service to man precedes the cradle and ends with the grave." But when that great law, the survival of the fittest, pursues us and we are forced to consider the bread and butter side of life, and to do so is not a crime, it is a necessity. Most of us need to pay more attention to the business side of the profession. Be good doctors first, then good business men.

Of course a certain orderly and systematic habit of mind is not inconsistent with the highest medical attainments; but we know, if the dear public does not, what occupies most of our anxious moments is not money getting but the diagnosis or the prognosis in some serious case with which we are wrestling. These things are too true and every doctor would be better if the business side of his life were not neglected. The ideal business man has to develop, as it were, a brain center that the average physician does not concern himself with. It is necessary for the time being to put aside all strictly professional duties and busy himself with the cold business side of life. It may be truly said that the success of a society depends largely upon its secretary. Some one has said: "Show me your secretary and I will tell you what your society is." The secretary should be a man who makes a success of his business or he would certainly not make a success of society business. The success of a meeting is not to be judged by the literary program wholly, for more good may come from a meeting spent entirely in a social way, at a picnic or on a fishing trip; from such meetings the doctors learn that the little petty jealousies that exist so often have only an imaginary foundation; the better the social condition, the better will be the meetings. The secretary should be a good physician, successful in his practice and known to have a well-ordered mind. He should be well read in the current literature of the profession and know what are the main medical questions of the day. He should be a man of some personal magnetism for he is obliged not only to know the member best qualified to treat of any particular subject, but how to get him to give his time to the necessary research for and composition of a paper As said before he should know personally and intimately every doctor in the county, he should be a man of pleasing address, should have something in his make-up that attracts people to him rather than repels. He must have self-denial, for he alone is morally bound to attend every meeting of his society, no social affair, however pleasant, must keep him from the council chamber, no desire for a pleasant, almost indispensible nap after an exhausting accouchment must prevent him from taking his weary brain and tired frame to the sacred meeting. His own serious illness or that of a near relative can excuse his delinquency; the storm that he knows will empty three-fourths of the chairs, he must brave or he may learn later that some delinquent doctor has been annoyed because of his inability to pay his dues. During the tenure of his office the secretary must prove himself impervious to criticism from some disgruntled member or other. If he endeavors to do his full duty in the conduct of the society's business the remark will surely be made that the whole society is secretary so and so, or that the secretary thinks he is the whole society. If, on the other hand, the meetings are in any way loosely run Mr. Secretary may count upon it being attributed to his indifference or incompetency; to kindly scientific criticism no man can object, but it is hard to bear patiently the knocks of the chronic kicker.

So our secretary must not be lazy but a hustler, must have a thick hide but be amenable to appreciation. He must be prompt and business-like, he must be patient, persevering, persistent, diplomatic, systematic, energetic and tactful. If there is any other good quality, moral, mental or physical, which he should not possess, I have yet to hear of it. Do not think me ungrateful; my position has its advantages in enabling me to learn more than can the average man, of the fine qualities and noble aspirations of the western American doctor.

WHAT THE COUNTY SECRETARY CAN DO TO MAKE THE STATE JOURNAL A FORCEFUL ELEMENT IN MEDICAL ORGANIZATION.*

By E. J. Goodwin, M. D., St. Louis.

Upon the secretary, more than upon any other member of the county society, rests the burden of keeping the work of the society up to its highest pitch of usefulness, and the members instinctively expect the secretary to exhibit an active, keen and lively interest in everything they themselves attempt to do. If the secretary fails to do this, the interest in the work of the society immediately drops, just as the engine slows down when the steam is shut off; for the secretary is usually the motive power of the society machinery, and if he fails to perform his functions faithfully, cheerfully and conscientiously, the other members fall into a state of indifference that spells ruin for the society. They do this sometimes in spite of the most energetic and faithful work on the part of the secretary; but in that case he has the satisfaction of knowing that he did his best to prevent such a fate. When a society stops working, the Association's influence in that community is practically dead; and it would not take many societies of that kind to cripple the work of the general body very seriously. Fortunately, however, we have a good body of earnest, hard-working secretaries, and therefore we have a number of good societies. But we have not as many of the good sort as we should have, and not all of them are doing all they should do, and are capable of doing, to make their societies more effective and more influential bodies in benefiting the members, as well as effecting a greater and larger benefit for the profession throughout the State and for the general public. Every society in the State, no matter how small it may be numerically, which holds meetings and keeps up a live interest in medical organization, contributes a powerful influence towards

*Read before the Missouri Society of Medical Secretaries, Jefferson City, May, 1909.

the fulfillment of the aims and object of our organization. That this is not mere idle talk, was demonstrated during the meeting of the legislature this year by the passage in that body of medical bills that will raise the practice of medicine to a much higher plane in this State than it has ever occupied before. Previous to the reorganization of the State Association, and the creation of the county medical society, the ordinary legislator paid scant heed to measures which the medical profession introduced; but now the voice of the profession commands the attention and respect which the power and influence of such an intelligent and devoted body of men should properly receive. Every secretary here is entitled to feel that he has contributed largely to this long-desired and much-sought-for consummation; and, feeling so, he should be strongly encouraged in his work for the future.

The duties of the secretary are so manifold and his attention to these duties so very important in maintaining the interest of the members in society work, that he should take advantage of every means which will tend to make his work effective and lasting; and the Journal, I believe, is his most important ally in accomplishing this end. The great value of the Journal as a means of giving permanence to the labors of the secretary and to the influence of the society, has not been fully appreciated by all county secretaries, for many of them do not give prominence to the work of their societies through the pages of the Journal. I think those societies which have sent reports of their proceedings to the Journal for publication will testify that attention to this simple matter has been very effective in maintaining the interest of the members in society work. Every organized body should have a medium of communication through which the members can keep in close touch with the events that occur from time to time in the different districts of the State, as these events have something in them which in some measure is interesting and useful to the entire membership. For instance, in St. Louis recently, the notorious Larsen, who advertised to cure all digestive diseases by his "teleconi" system, was fined $500 for practicing medicine without a license. A very important ruling by Judge Williams, the trial judge, defines the practice of medicine as "holding one's self out and representing and professing to be able to heal disease, no matter by what process." Larsen was arrested by the health department of St. Louis about twenty-one times, but used every possible means of evading the law, without success. He was permitted to pay $150 in fines and leave the State. The judicial decision defining the practice of medicine will be of great service in exterminating the advertising medical fakir from all counties. Now here is an item of very considerable interest to every physician in the State, particularly to every member of our organization; and yet only a comparatively small number would ever hear of such an event through the newspapers, whereas all may learn of it through the Journal. Optometry would be flourishing in our State in a short time had we not had a good

organization to fight the measure introduced to legalize this practice, and a Journal in which to publish the truth in regard to the dangers of such a fallacious doctrine.

These successes are a source of encouragement to every member, but only through the Journal can we bring such matters to the attention of the members. The doctor who lives in a district remote from the points where such events occur, feels that he is closer to the members throughout the State because he can read of what they are doing; his interest in society work therefore is kept alive, and he is more ready to assist in promoting the effectiveness of his own county society than he would be were he not informed of the work that other societies and other members are doing. Every occurrence, therefore, that can be construed into having an interest for the members in general, should be reported in the Journal; and, of course, it is the duty of the secretary to transmit the information to the editor.

One of the important functions of the Journal is the publication of papers read at the county society meetings; therefore the secretary should make it a point to select the good papers and send them to the Journal. When a member has devoted much time to the preparation of a paper and reads it before the society, it is a graceful acknowledgment of appreciation by the other members of his society if it is sent to the Journal for publication; for usually whatever has interested the members of your own society will hold the attention of other members in various parts of the State and bring out the fact that your society is doing good work. I believe, therefore, that it would be a good plan for the secretary to see that the Journal has a paper from some member of his society every three or four months. The knowledge that the paper will be published in the Journal will be a healthy stimulus to careful preparation of the paper, and cannot fail to stimulate and sustain greater interest in the general work of the society. The fear that few papers would be good enough to appear in the Journal should not deter you from adopting this plan, for you can easily distinguish between the papers which have some merit and show careful work on the part of the authors and the ones that would not reflect much credit either upon the author or the society; and the authors themselves, as a rule, will be the ones who will object to publication. And every paper thus prepared and read means increased interest in county society work, not only from one who reads the paper, but also from those whose interest is enlisted as a result of the work of the author of the paper.

Another way in which the Journal can be made to do greater service for the society is for the secretary to send copies to eligible non-members. There is still quite a number of good men outside the county society who, if constantly and periodically urged, would be induced to join. About every three months the secretary should make up a list of non-members in his county and have the Journal sent to them. At the same time the secretary should write a letter informing them

that a sample copy of the Journal will be mailed, inviting their attention to the Journal, and emphasizing the reasons why it would be to their interest to join the county society. Coincident with this the secretary of the State Association can mail a letter of invitation to join the county society, and the editor at the same time write a similar letter. In this way the influence of the society is extended and sooner or later you will get most of the desirable physicians, if not all of them, to join the county society. If the copy of the Journal that is sent contains a number of papers read in the different societies, and particularly if it contains a paper by some member of your own society, together with a good report of the last meeting, the effect upon the non-member would be very beneficial in its influence for good.

Finally, whenever you hear of a member who complains that he does not receive his Journal regularly, you should make it your duty to notify the editor. Of course, it is easier to say "write to the Journal about it," but to do so is to miss an opportunity of showing the member that you, as secretary of the society, are watchful of his privileges and benefits of membership; however, if you yourself would take the trouble to write a postal to the editor, simply stating that Doctor So and So complains about non-receipt of the Journal, you would show the member that you consider the Journal an important feature of membership, and you would gain his friendship and coöperation and compel his interest in society work.

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EDITORIAL

MEDICAL EDUCATION IN MISSOURI.

On page 151 will be found a table giving in detail the results of examinations by the State Board of Health of the graduates of the medical colleges in Missouri for the years 1906, 1907, 1908 and 1909. This table contains much important data concerning the progress of medical education in Missouri and should be carefully studied.

In 1906, the year in which the present State Board of Health began its duties, there were no legal restrictions of the educational qualifications of matriculants in medical colleges in Missouri, and in that year 367 graduates were examined by the board, with 48 per cent. of failures. Since the enactment of the law requiring a high school certificate, or its equivalent, before entering upon the study of medicine, there has been a decided decrease in the number of graduates and a lowering of the percentage of failures, in 1909 to almost one-half of the percentage of 1906. Comparing the percentage of failures in 1906 with that of 1909 we find that, with one exception, all schools show a lower percentage of failures in 1909 than in 1906, and that all except four colleges show a yearly decrease in the percentage of failures.

The table does not exhibit such marked improvement in medical education in Missouri as to justify a jubilant feeling of pride in our medical schools as a class, but the high advance made by several institutions promises much for the future. The greatest improvement is shown by the State University, which had 12 per cent. of failures in 1906 and 100 per cent. of successes since that time. While

it is true that the number of students examined each year was very small, it is, nevertheless, worthy of consideration that the State University has, since 1906, required preliminary educational qualifications of one year in a college of liberal arts. Of the other schools the most marked improvement is shown in the Washington University and the St. Louis University in the years 1907, 1908 and 1909, the failures falling from 17 per cent. in 1907 to 7 per cent. in 1909 in the former institution, and from 22 per cent. in 1907 to 3 per cent. in 1909 in the latter, the total number of graduates from each school during the three years varying so slightly as to justify the conclusion that the student body represented a higher grade of intelligence in the last year than in the previous years.

The agencies at work to elevate the standard of medical education in Missouri, notwithstanding the deplorable condition existing at present, as exhibited by the table, have resulted in many changes in the methods and practices of teaching that cannot fail to affect beneficially the status of medical education in this State, and some of the schools have announced a higher grade of requirements for the future. Beginning with 1910 the University of Missouri will require two or more years in a college of liberal arts, and the Washington University and St. Louis University one year, before students will be admitted to the medical departments.

The State Board of Health is the legally authorized body to enforce compliance with the laws governing the entrance requirements, teaching facilities and equipment, and it should have the active support of the medical profession in this work. The present Board will retire with the knowledge that it has done its work faithfully and successfully, and the new board will enter upon its duties with much of the labor already performed and, with precedents established and enlarged powers in other directions conferred upon it by recent amendments to the laws, Missouri should rise, in the next four years, to a proud place in the rank of states where the study of medicine is hedged about with every provision to insure capable, competent and faithful practitioners of medicine.

SANITATION OF CARS.

On another page we reproduce several letters, published in the daily papers in St. Louis, relative to the duties of the State Board of Health in the control of the sanitary condition of railway coaches. The first letter is from Governor Hadley to Dr. A. H. Hamel, President of

the State Board of Health, the next is Dr. Hamel's reply, and the final letter is the opinion of the Attorney-General as to the Board's legal power in enforcing its rules governing the sanitary care of coaches. We urge upon every member the necessity of reading this correspondence and upon county societies the duty of taking some action looking toward the enactment of laws to compel railroads to maintain strict care of the sanitary condition of passenger cars. We have discussed this subject in a previous issue of the JOURNAL and published the rules established by the Board.*

We are greatly pleased to observe the interest that Governor Hadley has taken in this matter and commend his action in drawing public attention to the insanitary condition of passenger cars. The criticism thus publicly expressed will undoubtedly arouse public sentiment in favor of the reform and induce the railroad managements to correct the evil.

The reply of Dr. Hamel to the Governor's letter is a testimonial of the diligence of the State Board of Health in the performance of its functions to protect the health and lives of the people, since it undertook to establish effective measures in the people's behalf without a vestige of legal authority to enforce its regulations. Nevertheless the Board asked and was promised the active support of all the railroads; in some instances these promises were fulfilled and the managements cooperated with the Board and maintained good sanitation of the cars. The fact, however, that the Governor was impelled to write a public letter to the State Board of Health directing attention to the insanitary condition of cars, is a rebuke to the managements of some of the roads, and their failure to comply with the rules set forth by the Board of Health is little short of criminal.

EDITORIAL NOTES

THE physicians of Carthage have organized a postgraduate club and elected the following officers: Vice-president, Dr. Wallace E. Steele; secretary, Dr. Everett E. Powers, and treasurer, Dr. Calvin B. Taylor.

PARKER Memorial Hospital, which was established at the University of Missouri, Columbia, by James L. Parker as a means of clinical

*May, 1908.

instruction for the school of medicine, has been converted into a students' infirmary. Dr. Guy L. Noyes has been continued as superintendent.

Dr. Frederick A. Patterson, St. Joseph, has temporarily succeeded Dr. W. F. Kuhn, removed, as superintendent of State Hospital No. 2, St. Joseph.

The following appointments and promotions are announced in the St. Louis University School of Medicine: Dr. Martin F. Engman, professor of dermatology, vice Dr. John H. Duncan, resigned, and Drs. John W. Marchildon, J. J. Houwink and Russell D. Carman, promoted from instructors to assistant professors of bacteriology, dermatology and roentgenology respectively.

Drs. James Moores Ball, John C. Murphy, Joseph L. Boehm, and other members of the Faculty of the College of Physicians and Surgeons in St. Louis have resigned.

Articles Accepted for N. N. R.:

Alypin Tablets, 3 1-3 grs., 1⅛ grs., 1-3 gr., ¾ gr. (Farbenfabriken of Elberfeld Co.).

Helmitol Tablets, 5 grs. (Farbenfabriken of Elberfeld Co.).

Sebromin Tablets, 8 grs. (Farbenfabriken of Elberfeld Co.).

Veronal-Sodium Tablets, 5 grs. (Farbenfabriken of Elberfeld Co.).

Thyresol (Farbenfabriken of Elberfeld Co.).

Novocaine Nitrate (Koechl & Co.).

Holadin and Bile Salts (Fairchild Bros. & Foster).

Oxone (Roessler & Hasslacher Chemical Works).

Apinol (Apinol Chemical Co.).

Articles Accepted for N. N. R. Appendix:

Tablets Atoxyl, 1-3 gr. (Sharp & Dohme).

Tablets Novocaine Soluble, 1.14 gr. (Sharp & Dohme).

Tablets Novocaine, 1-3 gr. (Sharp & Dohme).

Ampules Atoxyl Solution 10% (Sharp & Dohme).

Ampules Atoxyl Solution 10% and Novocaine 1% (Sharp & Dohme).

Massolin (Lederle Laboratories) has been accepted for inclusion with N. N. R.

Triferrin:

Triferrol: The agency for these products has been transferred from C. Bischoff & Co. to Knoll & Co.

COUNTY SOCIETY NOTES

ATCHISON COUNTY MEDICAL SOCIETY.

The Atchison County Medical Society held a meeting at Rock Port, July 1, 1909. The attendance was fairly good.

Two papers were read. The first, by Dr. Taylor, of Fairfax, entitled "Hepatic Abscess," was well presented and thoroughly considered by those present. The other paper, by Attorney W. R. Littell, of Tarkio, on the subject of "Medical Jurisprudence," considered at some length the laws governing the practice of medicine. This paper was discussed at considerable length by Dr. C. R. Woodson, of St. Joseph, whom this society was pleased to entertain as a visitor.

The next meeting will be held at Wesboro, on October 7th.—Austin McMichael, M. D., Secretary.

THE CALDWELL COUNTY MEDICAL SOCIETY.

On July 21, 1909, the Caldwell County Medical Society held its regular quarterly meeting at Kingston, Mo. Papers were read as follows: "Summer Diseases of Children," by Dr. B. F. Carr, Polo, Mo. "The Relation of Eclampsia to Acute Bright's Disease," by Dr. Geo. W. Goins, Breckenridge, Mo. "Hemorrhoids," by Dr. W. T. Lindley, Hamilton, Mo.

These papers were well received and discussed.

Dr. B. F. Carr presented a case of tuberculous osteitis involving the humerus and radius.

Dr. Tinsley Brown, Hamilton, Mo., resigned as secretary of the society because of his added duties as president of the State Society. Dr. Geo. W. Goins was elected to fill out the unexpired term of Dr. Brown as secretary of the society.

It was decided to take up the post-graduate work in two sections in this county on account of the railroad facilities. Drs. Lindley, Goins and Duffie were appointed as a committee to organize the work in the north half of the county along the Burlington railroad, and Drs. Carr, Smith and Schroeder were appointed as a committee to organize the work in the south half of the county along the Chicago, Milwaukee railroad. We hope to have this work organized by the time of the next quarterly meeting of the society, which will be held in Hamilton, and which will be an open session to the public. School hygiene and other popular topics will be discussed at this meeting.—Geo. W. Goins, M. D., Secretary.

CARROLL COUNTY MEDICAL SOCIETY.

The Carroll County Medical Society met in regular session on June 16th. The visiting doctors present were: Dr. A. W. McAlester, of Columbia; Dr. Jabez Jackson and Dr. McAlester, Jr., of Kansas City.

The doctors of the county present were: Drs. Cook, Cooper, Craton, Meredith, Austin and Brunner, of Carrollton; Dr. Lee, of Norborne; Dr. Samuels, of Sugartree; Dr. O. R. Edmonds, of Tina; Dr. Brown, of Bosworth; Drs. Boggs, Colby and Mrs. Dr. Colby, of Roads; Drs. Baird, Ewell and Miller, of Bogard.

After the regular order of business, Dr. McAlester, Sr., addressed the society on the subject of "Progressive Medicine." Dr. McAlester is a tireless worker in the interests of the medical profession, and few men have done more than he to guide the profession which he represents.

After the comments on Dr. McAlester's address, the society adjourned to the hotel for dinner.

At the afternoon session Dr. Jabez N. Jackson discussed very thoroughly the subject of cancer of the female breast. Dr. McAlester, Jr., briefly discussed glaucoma of the eye.

After a unanimous vote of thanks to the visiting doctors for their presence and able discussions, the society adjourned until the second Wednesday in July.—R. M. Miller, M. D., Reporter.

DUNKLIN COUNTY MEDICAL SOCIETY.

The Dunklin County Medical Society met in Kennett on July 14th. Those present were: Drs. V. H. Bond, T. J. Regdon, Paul Baldwin, W. B. Finney, J. J. Drace, W. E. Sturgis, J. A. Hogue and W. G. Hughes; visitors were: Drs. A. B. Mobley and W. O. Finney.

The following papers were read and discussed:

Amœbic Dysentery, by Dr. T. J. Rigdon. Discussion opened by Dr. Eli Back.

Cholera Infantum, by Dr. J. A. Hogue. Discussion opened by Dr. B. L. Ellis.

Acute Ileo-colitis, by Dr. W. G. Hughes. Discussion opened by Dr. J. B. Sharp.

Dr. E. H. Beall was prevented from attending, and the subject assigned to him, "Bacillary Dysentery," was taken up for general discussion.

The society enjoyed a very successful and interesting meeting.

Adjourned to meet in Campbell, September 8th.—W. E. Sturgis, M. D., Secretary.

GREENE COUNTY MEDICAL SOCIETY.

Greene County Medical Society adjourned July 9th for the summer vacation, after having completed a very instructive half year's work. Papers were presented during the sessions by Drs. Wm. Rheinhoff, T. A. Coffelt, C. E. Fulton, W. A. Camp, C. A. Tucker, C. E. Woody, Wm. Smith, G. W. Barnes, S. W. Tickle and O. N. Carter, who read papers on the following subjects: Puerperal Infection, Malaria, Iritis, Typhoid Fever, Diseases of Prostate, Diseases of the Ear and Eustachian Tube, Diseases of the Skin, Diseases of Infancy and Childhood.

The society attempted to bring before the city the importance of milk inspection and prophylactic measures to prevent the spread of tuber-

culosis and inaugurate a system of collection of vital statistics in reference to this disease. An anti-tuberculosis league was organized to confer with the city officials and citizens in attempts to prevent the spread of tuberculosis in the city. The members of this organization from the society are: President Fuson, Drs. Boyd, Rheinkoff, Wm. Smith, Barnes.

Dr. J. N. McCormack, National Organizer of the American Medical Association, was the guest of this society on May 26th, and delivered a very interesting address to the society at the Metropolitan Hotel, and in the evening gave a very instructive address to the public on medical topics of general interest.

The society will meet September 10th in regular session, taking up the subject of Diseases of the Pylorus, by Dr. B. F. Fortner.—J. E. Dewey, M. D., Secretary.

THE HENRY COUNTY MEDICAL SOCIETY.

MEETING OF JULY 7TH.

The Henry County Medical Society met in regular session July 7th, Drs. Gibbins, Haire, McNees, Peelor and Douglass present.

Dr. A. J. McNees gave an interesting lecture on Diseases of the Pericardium and Endocardium, giving the etiology, age, sex, seasons, secondary to what diseases, extension, pathology, varieties, symptoms and treatment. The discussion consisted of the relating of cases and the different ways of treating the condition.

MEETING OF JULY 21ST.

At the meeting of July 21st, there were present: Drs. Blackmore, Neeley, Peelor, Hampton, McNees, Haire, Bibbins, Shankland and Douglass.

Dr. T. A. Blackmore gave a lecture on Valvular Lesions of the Left Heart. The paper was complete in detail, showing careful research in the preparation and left nothing to be said on the acute varieties.

Dr. J. E. Neeley spoke on the subject of Chronic Valvular Lesions.

Both lectures were so good that nothing was left to discuss, and both essayists were highly commended.

The society will meet in Windsor, on September 15th.—F. M. Douglass, M. D., Reporter.

MACON COUNTY MEDICAL AND SURGICAL SOCIETY.

The Macon County Medical and Surgical Society met in the office of the secretary, in Macon, July 13th. Members in attendance: Drs. T. S. Watson, W. P. Rowland, G. F. Brewington and L. E. Mason, of Brevier; Drs. Wm. A. Welch and C. E. Salyer, of Callao; Dr. W. D. Pipkin, Excello; Dr. C. L. Hooper, Ardmore; Dr. F. B. Dailey, Keota; Dr. A. L. Cambry, Atlanta; Drs. W. H. Miller, C. W. Reagan, L. M. Thompson and A. B. Miller, of Macon.

The society has started in on a three months' special study of heart diseases. This meeting was entirely taken up in the examination and discussion of heart cases presented by the various members.

A committee was appointed to present a plan at the next regular meeting for the organization of a county anti-tuberculosis society, so that an aggressive campaign of education may be inaugurated.

At our next regular meeting in August the study of heart diseases will be continued. At this meeting Dr. Hooper will read a paper on the etiology and pathology of mitral stenosis and regurgitation. Dr. Dailey will read a paper on the differential diagnosis of the lesions. Dr. Reagan will tell us how to treat them. Dr. W. H. Miller will give the etiology and pathology of bradycardia and tachycardia. Dr. Rowland will read a paper on septic endocarditis and Dr. Miller will read a paper on angina sine dolore. These papers will, as far as possible, be illustrated by the presentation of clinical cases.

The doctors are expected to bring their wives, as arrangements will be made for their entertainment at the home of the secretary. After the session, there will be a picnic on the lawn of the secretary. This social event is planned in order that the doctors' wives may get together and get acquainted, and it is expected they will form themselves into some sort of an organization to meet quarterly.

Our society is doing the most satisfactory work it has ever done, and we heartily commend the plan to other county societies of taking up the various organs and studying them for a period, as it stimulates study and increases interest.—A. B. Miller, M. D., Secretary.

THE RANDOLPH COUNTY MEDICAL SOCIETY.

The Randolph County Medical Society convened at Moberly July 29, 1909, at 2 p. m. This meeting was entirely clinical, and proved to be the most interesting in the history of the society.

The first clinic was presented by Dr. Allen, of Cairo. This was a case of tuberculous osteoperiostitis of the right ulna, in which the ulna was involved to such an extent that complete removal was necessary. The case was discussed by Drs. Clapp and Bazan.

The second clinic was presented by Dr. Burkhalter, of Higbee. This was a case of angioneurotic edema and was very instructive from the standpoint of diagnosis. The case was discussed by Drs. Lyter and Bazan.

Dr. C. K. Dutton, of Moberly, presented the third clinic, the first patient being a case of corneal opacity. The doctor was able to demonstrate some very excellent results obtained by subconjunctival injections. The second patient presented by Dr. Dutton was a case of traumatic rupture of the lens capsule, treated in due time by extraction. These cases were discussed in full by Dr. Cuppaidge.

Dr. J. C. Lyter then presented a case of specific hypertrophic cirrhosis of the liver, which was responding beautifully to large doses of iodide of soda. This case was freely discussed by Drs. Cuppaidge and Allen.

The last clinic was presented by Dr. C. B. Clapp, of Moberly. Dr. Clapp presented and discussed at some length a case of suppurative appendicitis of a few hours duration, treated by operation. This subject was discussed by every member of the society, each urging early operative procedure.

The next meeting will be held in the Commercial Club rooms at Moberly on August 26th at 2 p. m. This meeting will also be clinical.—J. C. Lyter, M. D., Secretary.

SHELBY COUNTY MEDICAL SOCIETY.

The Shelby County Medical Society met at Clarence, June 22.

Dr. Vaughn read a good paper on syphilis, which was discussed to good advantage, Dr. Read saying he knew of one instance of infection from a dentist's forceps.

Dr. Nickell read an excellent paper on "Routine Urinalysis With Findings in Two Unsuspected Cases." He said most physicians were too negligent in making urinalyses. He preferred to buy the reagents in bulk, as they were then more reliable and cheaper; he had found that patients were willing to pay him when he explained to them the importance of the examination. The paper was well received and discussed.

A clinical case was reported by Dr. Daniel.

Those present were Drs. Pollard, Vaughn, Stark, Dallas, Owen, Sanders, Roy, Read, Daniel, Nickell and Wood.—A. M. Wood, M. D., Reporter.

GRADUATES OF MISSOURI MEDICAL COLLEGES EXAMINED BY THE MISSOURI STATE BOARD OF HEALTH IN THE YEARS 1906, 1907, 1908, 1909.

Name and Location of College	1906				1907				1908				1909				Totals			
	Passed.	Failed.	Total No. Examined.	Percentage of Failures.	Passed.	Failed.	Total No. Examined.	Percentage of Failures.	Passed.	Failed.	Total No. Examined.	Percentage of Failures.	Passed.	Failed.	Total No. Examined.	Percentage of Failures.	Passed.	Failed.	Total No. Examined.	Percentage of Failures.
American Medical College, St. Louis.....	8	7	15	47	3	8	11	73	6	4	10	40	2	0	2	0	19	19	38	50
Barnes University Medical College, St. Louis..	29	44	73	60	26	20	46	43	....	....	....	....	24	12	36	33	79	76	155	49
College of Physicians and Surgeons, St. Louis..	11	32	43	74	9	19	28	68	9	12	21	57	11	14	25	56	40	77	117	66
Eclectic Medical University, Kansas City.....	2	7	9	78	1	0	1	0	....	....	....	....	....	....	....	....	3	7	10	70
Ensworth Medical College, St. Joseph.....	4	15	19	79	5	2	7	28	7	6	13	46	6	3	9	33	22	26	48	54
Kansas City Hahnemann Medical College, K. C.	....	1	1	100	1	0	1	0	4	3	7	43	....	....	....	....	5	4	9	44
Homeopathic Medical College of Mo., St. Louis	2	5	7	71	3	1	4	25	4	3	7	43	1	1	2	50	10	10	20	50
St. Louis University, Medical Dept., St. Louis	62	46	108	42	31	9	40	22	32	7	39	18	33	1	34	3	168	53	221	24
University Medical College, Kansas City.....	26	10	36	28	38	15	53	28	26	11	37	30	20	12	32	37	120	48	168	28
University of Missouri, Medical Dept., Columbia	7	1	8	12	2	0	2	0	8	0	8	0	3	0	3	0	20	1	21	5
Washington University, Medical Dept., St. Louis	41	7	48	14	35	7	42	17	43	6	49	12	40	3	43	7	159	23	182	13
Totals.....	192	175	367	48	154	81	235	34	139	52	191	27	140	46	186	25	645	314	989	35

CORRESPONDENCE

Jefferson City, July 28, 1909.

Dr. A. H. Hamel,
President State Board of Health, St. Louis, Mo.

My Dear Doctor:

Recently, during my travels about the State, I have had occasion to notice the very unsanitary condition of the railroad cars, and particularly of the closets and wash rooms, both upon the ordinary coaches and also in the sleeping cars. I have also noticed that promiscuous expectoration is general on the trains.

I wish that you would appoint a committee from the State Board of Health to investigate these conditions, and take up with the railroad companies the question of observing rules that your Board might establish for the improvement of existing conditions.

Without reference to your legal authority in the matter, I am satisfied that the officers of the railroad companies will be glad to coöperate with you by observing such practical sanitary regulations as your Board might adopt.

When we consider that there occurs in this State each year approximately 10,000 deaths from tuberculosis, and that probably 50,000 more of our people are partially or totally incapacitated by reason of that disease, all of which might be largely, if not entirely, prevented by proper sanitary regulations, the importance of some action in reference to these conditions is clearly apparent.

I shall be glad to have you advise me as to any action that you may deem it advisable to take in this matter.

Very truly yours,

HERBERT S. HADLEY,
Governor.

St. Louis, July 30, 1909.

Honorable Herbert S. Hadley, Governor,
Jefferson City, Mo.

Dear Sir:

In reply to your letter of the 28th inst. requesting the State Board of Health to take action in regard to the unsanitary condition of railroad coaches, etc., permit me to say:

I am much gratified that you take such great interest in the sanitary matters, and especially am I pleased to have you call public attention to the disregard on the part of the railroad companies of the rules published by this Board, with the concurrence of the managements of all the roads. In 1908 the State Board of Health thoroughly considered the conditions of railroad cars, station houses, etc., as disseminators of disease, and appointed a committee to whom this matter was referred. The committee conferred with all the railroad managements which operate passenger trains in this State. As a result of much correspondence and many conferences, certain rules, concerning the manner in which coaches were to be kept clean, provision for receiving the expectorations of persons suffering with disease or of those practicing that insanitary and unclean habit, were provided; the frequent cleansing of coaches was prescribed, disinfecting toilet rooms, cuspidors and coaches was given detailed consideration, as well as the frequent supply of potable water, and the cleansing of drinking utensils. Besides this, placards were ordered displayed in every coach and station calling attention to the dangers from communicable diseases which are transmitted from one person to another from expectorated materials and from the general insanitary condition of coaches. All these rules and regulations were published in the April, 1908, number of the Bulletin of the Missouri State Board of Health, and widely distributed throughout the State. I enclose a copy of the Bulletin.

As I said above, for all these regulations and rules the State Board of Health had the concurrence and the promised active support of the railroad companies. As far as the State Board of Health has been able to inform itself, there is no statutatory provision which empowers the board to enforce these regulations, and it was considered fortunate to have the voluntary and cheerful coöperation of the railway companies in carrying them out. It is always difficult to enforce sanitary rules, even when legal provision is made for doing so, and when there are not at the disposal of the board funds to employ inspectors to report upon the sanitary condition of the cars and stations, the matter becomes much more complicated.

As you know, the trunk lines which embrace this State in their territory extend, in many instances, through several states, in many of which regulations have been made and promulgated concerning the sanitation of railway trains, just as in Missouri, and since there is no uniformity in these regulations this board has suggested that conferences be entered into with the State Boards of Health of adjoining states with a view to securing such uniform, reasonable and practical regulations as would be carried out without necessitating the plastering of the walls of railway carriages with printed regulations of the different states through which the coach may pass.

I will cheerfully present this matter to the State Board of Health, and I will endeavor to find some means for collecting the facts concerning the violation of the rules made by the board, and call the attention of the railroad companies to such conditions as may be found.

In the meantime, may I not request of you that you call the attention of the Attorney-General, officially, to the assistance which the State Board of Health needs in securing the enforcement of its sanitary rules and regulations of railways, in order that the board may be fortified legally in the proper way.

The members of the State Board of Health are gratified, however, to call your attention to the strict compliance with the regulations made by the board on the part of some of the principal lines.

Again permit me to express my high appreciation of your interest in public health matters, and rest assured that my associates on the board join me in hoping that you will continue to manifest this same solicitude in the future for all matters with which the law charges the State Board of Health.

Most sincerely yours,

A. H. HAMEL,
President.

DR. A. H. HAMEL,
President State Board of Health, St. Louis.

Dear Sir:

"I am in receipt of your communication of the 9th instant, in which you enclose a copy of the 'sanitary rules for railroads,' adopted by the State Board of Health on May 10, 1908, of which board you have the honor to be president, requesting an opinion from this department as to whether the State Board of Health, under the present statute creating same, has the power and authority to adopt such rules and legally enforce the same.

"The present statute providing for the State Board of Health was enacted in the year 1883 (Laws 1883, page 95), and has had but one amendment made thereto since its enactment, which was in the year 1901 (Laws 1901, page 180), by adding a new section thereto creating a county board of health.

"Section 7520, R. S., 1899, is the only part of the act which defines the general powers and duties of the State Board of Health, and which reads as follows: 'The State Board of Health shall have general supervision over the health and sanitary interests of the citizens of the State. It shall be their duty to recommend to the General Assembly of the State such laws as they may deem necessary to improve and advance the sanitary conditions of the State; to recommend to the municipal authorities of any city, or to the county courts of any county, the adoption of any rules that they may deem wise or expedient for the protection and preservation of the health of the citizens thereof.'

"Section 7529 provides as follows: 'No rule or regulation adopted by this board shall be legal or binding which shall conflict with any law of the State or any ordinance of any municipality or town in the State.'

"The Legislature has wholly failed to provide by law a penalty for the failure or refusal to comply with any rule or regulation that may be made and adopted by the State Board of Health, except as to quarantine rules and regulations specifically named in Section 7523, R. S. 1899.

"A State board of health possesses only such powers and duties as the State Legislature may see fit to delegate to such board.

"By a careful reading of the act creating your board, you will observe that your powers for enforcing your rules and regulations are very limited, and are more of an advisory nature than executive. The Legislature should specifically grant the power and authority to the State Board of Health to make and enforce all needful sanitary rules to govern the care, use and keeping of steam railway coaches, dining cars, sleeping cars, and all waiting-rooms and stations, as your board has wisely done and as shown by the rules adopted and submitted for our examination in this case.

"In addition to such power and authority a penal statute should be enacted providing a penalty for the refusal or failure to fully comply with such rules and regulations.

"I am of the opinion that until such legislation is first had in this State, your board is powerless to do more than you have already done in the premises, to enact such rules as you have and request the railways to comply with the same.

"I do not think you have any authority to appoint an inspector for the reason that you have no authority to make and enforce the rules adopted."

Very truly yours,

JOHN M. ATKINSON,
Assistant Attorney-General.

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ORIGINAL ARTICLES

DR. ADAM HAMMER, SURGEON AND APOSTLE OF HIGHER MEDICAL EDUCATION.*

By James Moores Ball, M. D., St. Louis.

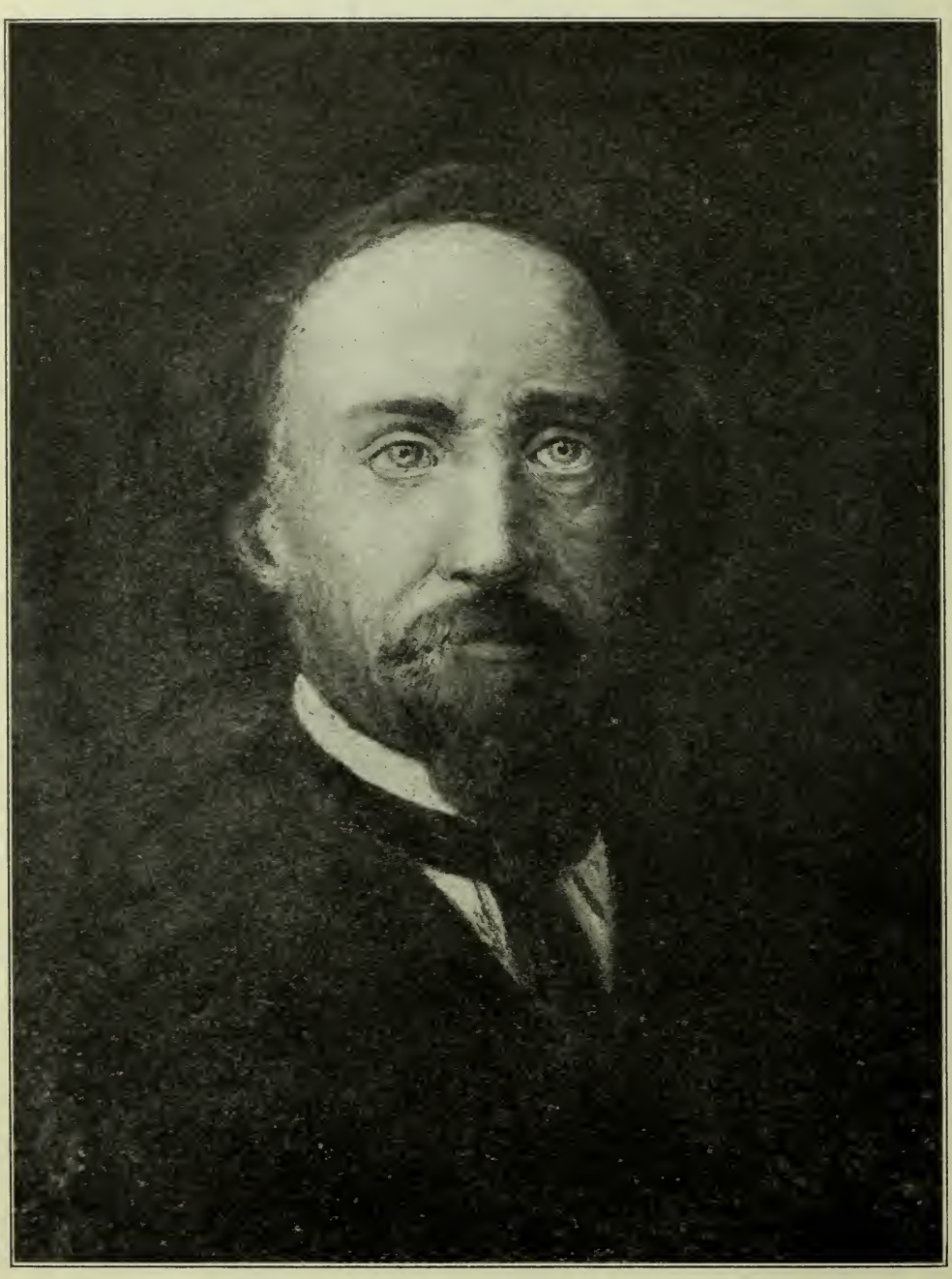
In the few minutes at my disposal I propose, so far as lies in my power, to pay a tribute to the memory of one of the greatest men that St. Louis has ever known; to honor one who was a leader of men, a pioneer in the cause of higher medical education in the United States, a giant in intellect, and a worthy son of the Fatherland over the sea.

In selecting as my subject Dr. Adam Hammer and the Institutions which he Founded, I have done so only after mature deliberation and considerable research, being fully convinced that the memory of this man has not been adequately honored by the medical profession of St. Louis and of Missouri.[1]

Among the many strong men who have adorned the medical profession of this State, there was not one whose life was more tempestuous than was that of Dr. Hammer. There was not one whose medical ideals were higher. There was not one whose surgical skill, or whose surgical knowledge, or whose surgical courage, was greater. There was not one whose fame bids fair to last longer. Deprived during his lifetime of much of the credit to which he was justly entitled, drawn frequently into fierce controversies by men, some of whom were his inferiors, often misunderstood and perhaps often misquoted, his reputation has steadily grown since his death. Tested in the crucible of time, his character

*Read in the Surgical Section, Missouri State Medical Association, Jefferson City, May 19, 1909.

[1]In "*One Hundred Years of Medicine and Surgery in Missouri*," St. Louis, 1900, only a few sentences are devoted to Dr. Hammer, and these describe a quarrel with Dr. A. P. Lankford. Goodwin's "*History of Medicine in Missouri*," St. Louis, 1905, mentions Dr. Hammer in connection with an incorrect account of the Humboldt Medical College.



DR. ADAM HAMMER.

(From a photograph of a painting by Dr. Adolf Neubert.)

stands out in bold relief, and his posthumous fame grows with the passing years. I will venture to predict that the historian, who will write fifty years from now, will place the name of no St. Louis surgeon above that of Dr. Hammer.

Men come. They speak their few lines upon the stage of medical life, and then are lost to view forever. The favorites of fortune, those who fawn and cringe to persons holding positions by virtue not of merit but by nepotism, the devotees of society, the imitators and hack-writers, all that evil brood who never had an original idea in their lives, and like the moon are content to shine by reflected light—these are soon forgotten. It is only to the great reformers, and to persons of marked individuality, that immortality is granted.

For many years, Dr. Adam Hammer stood forth like a great oak, with rugged knots and gnarled branches, battling for higher medical education, for more light, and for the betterment of the medical profession. Surely we owe it to this fair State, and to the medical men of this State, that his name should be honored and his good deeds should be perpetuated.

In the cause of higher medical education, Dr. Adam Hammer was the first and the foremost American leader of his time. He founded institutions, which were the first ones in the United States to stand for three important principles:

I. An adequate preliminary education.

II. A graded course of instruction.

III. Four courses of lectures.

While the American Medical Association was meeting, and resolving, year after year, that something ought to be done to advance the standard of education of physicians, Dr. Adam Hammer was *acting*.

Who was this man Hammer?

In the little town of Mingalsheim, in the grand Duchy of Baden, not far from the city of Mannheim, near the point where the Neckar joins the Rhine, Adam Hammer was born on the 27th day of December, in the year 1818. This province, now one of the fairest parts of Germany, had been cruelly ravaged during the Napoleonic wars. Its inhabitants have long been noted for their love of learning and of liberty. Its chief city is Heidelberg, with its famous University.

Young Hammer was sent to the gymnasium at Bruchsal for his elementary training. In every class he gained the first prize. Leaving the gymnasium, in 1837 he entered the University of Heidelberg, where he gave especial attention to the natural sciences and to mathematics. In the latter subject he acquired remarkable proficiency; in fact, it was originally his intention to become a professor of mathematics. While he was a student in the literary department of the University, his father, becoming dissatisfied with the political status of Germany, migrated to this country.

The son soon turned his attention to the study of medicine, and

in 1842, after a brilliant career as a student, Adam Hammer received the degree of Doctor of Medicine from the University of Heidelberg. The next three years he spent in the Baden army service as assistant surgeon. In 1845 he established himself in private practice in the city of Mannheim. Here he met and married Mrs. Hammer, who is still living. In 1847, in the brief uprising known as the Sönderbundskriege, he tendered his services to the Swiss as an army surgeon. His offer was accepted and he served on the staff of General Ochsenbein until the end of the war.

The love of liberty, the desire for a representative form of government, and the wish for freedom of speech, have always been strong in South Germany. The citizens of Mannheim bitterly resented the double dealing of Frederick William IV. When, in 1848, Hecker raised his standard of revolution against the established government, many of the inhabitants of Baden joined the movement. The revolt was short-lived. Hecker and his friends were forced to seek an asylum, and this revolution, which lost to Germany many of her brainiest men, brought to America such talented individuals as Frederick Hecker, Adam Hammer, Carl Schurz, Louis Bauer and others too numerous to mention. On the 28th day of October, 1848, Hammer, accompanied by his faithful friend Hecker, arrived in St. Louis.

Here Dr. Hammer engaged in private practice. In 1850, at the request of Dr. M. L. Linton, he became a member of the St. Louis Medical Society.

Dr. Hammer early became convinced of the need of reform in American medical education. On February 28th, 1855, the Legislature of Missouri chartered an institution for the purpose of carrying out Dr. Hammer's ideas. This, the *St. Louis College of Medical and Natural Sciences,* was the first institution in the United States to have high preliminary requirements, a graded course of instruction, and four courses of lectures.* Included in the curriculum we find Microscopic Anatomy, Experimental Physiology, Experimental Physics, Mineralogy, Geology and General Botany, Embryology, Pathological Anatomy and Non-Syphilitic Diseases of the Genito-Urinary Organs—many of which branches were not to be found in the curricula of other American medical colleges in the year 1855. This institution closed its doors in 1856, for the reason that three distinguished foreign professors—Hamernik, of the University of Prague; Planer, of the University of Vienna; and Schiel, of the University of Heidelberg—who had promised to join Dr. Hammer in his enterprise—failed to appear.

Ideas, if founded on truth, do not die. In the fall of 1859, Dr. Hammer, assisted by an able faculty, opened the "Humboldt-Institut"** —a college which was unique in the annals of American medicine in this respect, viz., the instruction was given in the German language.

*See note "A," in Appendix.

**See note "B," in Appendix.

Here we find the same high standards, the graded instruction, the four courses of lectures, and the public examination of candidates for the degree of Doctor of Medicine. With the exception of a period of two years during the Civil War, the Humboldt-Institut continued its good work until the year 1866, when it was changed into the *Humboldt Medical College*[1]—an English school. In the summer of 1869, the Humboldt Medical College was abandoned; several members of its faculty, with Dr. Louis Bauer (Dean and Professor of Surgery), and Dr. A. J. Steele (Secretary) as leaders, formed the first *St. Louis College of Physicians & Surgeons*.[2] This new institution, whose faculty embraced many of the ablest physicians, surgeons and specialists that St. Louis has ever known, gave lectures for only three sessions. In 1873, Dr. Louis Bauer chartered the present St. Louis College of Physicians & Surgeons.

In the twenty minutes allotted to this paper, I have not the time to speak appropriately of Dr. Hammer as a surgeon. It must suffice to say that he was fearless, that he performed operations which other surgeons declared to be impossible, that he was the fifth man in the history of surgery to make a complete excision of the scapula,[3] that he was the first man in the Mississippi Valley to know surgical pathology,[4] and that in all things surgical he was not only the peer but was the superior of his associates.

Skillful alike in general surgery and in ophthalmology, he knew the literature of surgery and he was able to impart his knowledge to others.

In an intellectual sense, the institutions which Dr. Hammer founded in St. Louis were German colleges. Most of his colleagues were graduates of famous German universities. They were men of broad culture, and were well versed not only in medicine but in the collateral sciences. It is doubtful if, to-day, any medical college faculty in this State can show so large a proportion of highly educated professors as was to be found in the *St. Louis College of Medical and Natural Sciences* and in the *Humboldt-Institut*. The high preliminary requirements, the four courses of lectures, the public examination of candidates for graduation, the graded course of instruction, the stress laid upon laboratory and clinical work, and the teaching of numerous specialties that were practically unknown in this country—all these were features which stamp Hammer's schools as of German origin.

It is no credit to the medical profession of St. Louis, or of Missouri, or of the great Southwest, tributary to this State, that the high-grade medical institutions founded by Dr. Hammer were permitted to

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[1]See note "C," in Appendix.
[2]See note "D," in Appendix.
[3]See note "E," in Appendix.
[4]Dr. Hammer's Lectures on Pathological Anatomy were published in the *Humboldt Medical Archives*, September, 1867, to July, 1868.

pass away. It is no credit to the two old and powerful schools[1] then existing in St. Louis, that they persistently fought every proposition for higher medical education that was advanced by Dr. Hammer.[2] For the sins committed forty and fifty years ago, we are suffering to-day, in reputation, if not in pocketbook. We missed a glorious opportunity to direct the attention of the civilized world to medical St. Louis. Suppose that a new medical college would open its doors this fall, with very high preliminary requirements, and a graded course of instruction covering eight years of work, would it not cause the oldest inhabitant to sit up and rub his eyes? Yet Dr. Hammer did something not less wonderful than this.

At a time when the Harvard Medical School,[3] the University of Pennsylvania, the College of Physicians & Surgeons of New York, and the two old medical colleges of St. Louis, were graduating doctors on two terms of four or four and one-half months' duration, Dr. Hammer's institutions required sixteen months of actual attendance in college. At a time when other colleges were repeating the same lectures year after year, Dr. Hammer's students were receiving graded instruction.

All honor to the memory of Dr. Adam Hammer, Surgeon and Apostle of Higher Medical Education.

APPENDIX.

The preceding paper is based on materials which have been derived from many sources. The writer wishes, first of all, to acknowledge his indebtedness to Dr. Adolf Neubert, of St. Louis, who was present, as a student, at the opening of the *"Humboldt-Institut,"* in 1859.

The facsimiles of title-pages of catalogues have been made from originals which are now in the possession of the St. Louis Medical History Club.

Much valuable information concerning the state of medical education fifty years ago, and later, is contained in the medical press of that period. In this connection, especial mention must be made of editorial and other articles which were published in the *Humboldt Medical Archives* (later known as the *Medical Archives*) from September, 1867, to (and including) June, 1870.

The *Transactions of the American Medical Association*, from 1848 to 1860, contain numerous strictures on the medical education of that time.

The portrait of Dr. Hammer is reproduced from an oil painting by his student, Dr. A. Neubert.

The group picture, showing some of the professors of the Humboldt-Institut, was furnished by Miss Thekla Bernays, of St. Louis, whose father and uncle were members of the faculty.

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[1]The St. Louis Medical College, and the Missouri Medical College.

[2]See note "F," in Appendix.

[3]In 1849 the Medical Faculty of Harvard University presented to the American Medical Association a formal defense of the four months' course in preference to a more extended term. See *Transactions Am. Med. Assn.*, Vol. VII., page 58.

Note "A."—**The St. Louis College of Medical & Natural Sciences** was founded in 1855 for the specific purpose of placing American medical education upon a plane similar to that of the best foreign universities. It was the first school in the United States to require high preliminary qualifications for matriculation, a graded course of instruction, and four courses of lectures. It was chartered on February 28, 1855, by the Legislature of Missouri. The incorporators were: L. A. Benoist, William Bennett, Taylor Blow, John M. Cooper, Franklin A. Dick, Benjamin Farrar, John O'F. Farrar, John Hogan, William Palm, Isaac M. Sturgeon and James Wilson.

The St. Louis College of Medical & Natural Sciences had no graduates.

The Charter defines the amount of instruction to be given and the requirements for the medical degree, as follows:

> "Sec. 5. There shall be two courses of lectures delivered during the year—a winter course and a summer course; the two courses conjointly to extend over a period of eight months. The number and order of the lectures shall be discretionary with the Faculty.
>
> "Sec. 6. Students who apply for a degree of 'Doctor of Medicine' must have attended four sessions in this College, or two sessions in some respectable College, and two in this College.
>
> "Sec. 7. The examination for the degree of Doctor shall be public, as also the defense of the thesis."

Courses. First course from October 1, 1855, to February 1, 1856.
Second course from February 8, 1856, to June 1, 1856.
Third course from October 1, 1856, to February 1, 1857.
Fourth course from February 8, 1857, to June 1, 1857.

The St. Louis College of Medical & Natural Sciences opened on October 1st, 1855, with the following

FACULTY.

D. M. COOPER, A. M., M. D.,
Professor of Surgical Anatomy, Operative Surgery and Dean of the Faculty.

A. HAMMER, M. D.,
Professor of the Principles of Surgery, Clinical Surgery and Ophthalmology.

J. HAMERNIK, M. D.,
(Late Professor of Clinical Medicine and Lecturer on Diseases of the Chest in the University of Prague), Professor of the Theory and Practice of Medicine and of Clinical Medicine.

J. PLANER, M. D.,
(Late First Assistant to Professor Rokitansky and Lecturer on Pathological Anatomy in the University of Vienna), Professor of Pathological Anatomy and Microscopy.

CHAS. L. LYLE, M. D.,
(Late of Louisville.) Professor of Anatomy and Physiology.

CIRCULAR

OF THE

St. Louis College

OF

MEDICAL AND NATURAL SCIENCES.

SESSION, 1855–'56.

ST. LOUIS, MO:

PRINTED AT THE REPUBLICAN BOOK AND JOB OFFICE.

1855.

Title-page of the Circular of the St. Louis College of Medical and Natural Sciences.

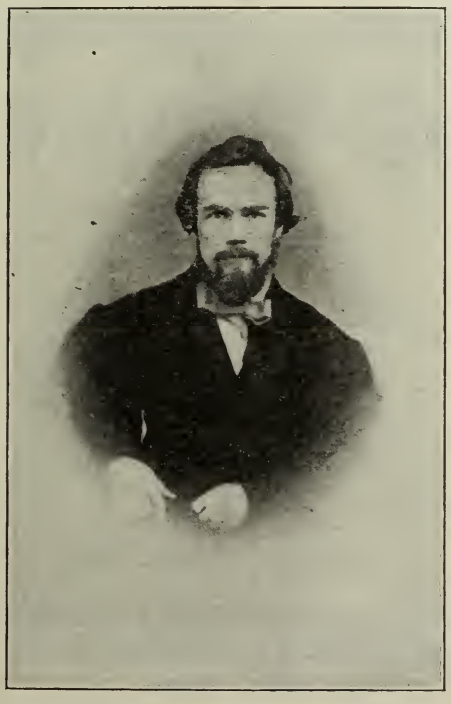
J. SCHIEL, A. M.,
(Late Lecturer on Physics and Chemistry in the University of Heidelberg),
Professor of Natural Philosophy and Chemistry
in all its Branches.

FRED. HAUCK, M. D.,
(Late Prosector at the University of Marburg), Prosector and Demonstrator of Anatomy.

C. RAU, A. M.,
Lecturer on Mineralogy, Geology and General Botany.

M. P. CULLIN, Janitor.

[The Chair of Obstetrics had not been filled at the time the Circular was printed.]



DR. D. M. COOPER,
Dean of the St. Louis College of Medical and Natural Sciences, 1855.

Extract from the Circular of the Board of Trustees of the St. Louis College of Medical and Natural Sciences:

"Every impartial and right-thinking physician readily acknowledges the great deficiencies in medical education. But even those unacquainted with the difficulties in the study of the natural sciences and medicine, must perceive that the present system is defective to a deplorable degree.

"In the first place, the time allotted to the study of medicine (two

courses of four months each) is too short even for the most extraordinary mind. In the second place, the method of teaching is exceedingly defective, to say the least of it, and this for the reason that the student hears exactly the same lectures in the second course that he does in the first; for all branches of medical science are taught in four months, and all are taught together. As to teaching all branches of medical science in four months, the thing is *simply impossible!* As to teaching all branches together, it is repugnant to reason; for, the student is thus forced to study the *alpha* and *omega* at the same time. Would it not be somewhat absurd to make a child, while learning its alphabet, attend lectures on rhetoric? The defects of the system are so palpable that we consider it unnecessary to enlarge further on them. Exertions have been made to correct them. What has been the result? Each attempt at improvement has been a failure! Why? Most strange to say, because the opposition has come from a part of the medical profession itself, and particularly from that portion to whose hands medical education has been confided. The professors of the innumerable colleges have formed themselves into a phalanx and opposed strenuously all projects of reform. *While they have acknowledged its necessity, they have denied its practicability."*



Seal of the Humboldt-Institut.

Note "B." **The Humboldt-Institut, oder Deutsche Naturwissenschaftlich-Medicinische Schule in St. Louis.**

This was a German medical college, having the same high requirements as its predecessor. It was opened in October, 1859. Instruction was given in 1859-60, and 1860-61. Lectures were suspended during the early part of the Civil War. The College was reopened and lectures were given in 1863-64, 1864-65, 1865-66. Classes were graduated in 1861, '64, '65 and '66. Then, in order to appeal to English-speaking students, the name was changed to the Humboldt Medical College. The Humboldt-Institut had in all about thirty graduates.

The first catalogue (program) is dated August 1, 1859. The college building was located on Ninth street, between Market and Walnut

HUMBOLDT-INSTITUT.

PROGRAMM

DER DEUTSCHEN

Naturwissenschaftlich - Medicinischen

SCHULE

in

St. LOUIS, MO.

Semester 1859—60

ST. LOUIS,

Gedruckt in der Office des „Anzeiger des Westens."

1859.

Title-page of the First Announcement of the Humboldt-Institut.

streets, across the alley from Druid's Hall. The building is still in existence.

The Humboldt-Institut was chartered by the General Assembly of Missouri, the Act being approved December 31, 1859. The charter was granted to H. T. Blow, H. Boernstein, A. Hammer, Christian Kribben, Frederick Schulenburg and L. Wagner.

The institution's seal bears the date, October 1, 1859.

Although the opening of the College was announced for October 1, 1859, in fact it opened one month earlier, by reason of its flattering prospects. During September a preliminary course of lectures was given.



G. J. BERNAYS. —— FUNCK.
ERNST SCHMIDT. C. ROESCH. A. HAMMER.
Some of the Members of the Faculty of the Humboldt-Institut, 1860-61.
(Courtesy of Miss Thekla Bernays.)

FIRST FACULTY OF THE HUMBOLDT-INSTITUT (1859-60).
MITGLIEDER DER FACULTAET (Faculty).

DR. A. BEHR (Secretary),
Professor der mikroskopischen und pathologischen Anatomie und der Materia Medica.

DR. G. BERNAYS,
Professor der Physiologie, der Geburtshuelfe und der Geburtshuelflichen Klinik.

DR. D. GOEBEL,
Professor der Experimental-Physick, und der hoehern Mathematik.

DR. A. HAMMER (Dean),
Professor der Anatomie, Chirurgie und Augenheilkunde und der Chirurgisch-ophthalmologischen Klinik.

DR. T. C. HILGARD,
Professor der Anatomie, Zoologie, Botanick und Vergleichenden Anatomie.

DR. C. ROESCH,
Professor der allgemeinen und speciallen Pathologie und Therapie und der Medicinischen Klinik.

DR. H. STIEREN,
Professor der Chemie und Mineralogie.

COURSES:

First course from October 1, 1859, to January 15, 1860.
Second course from January 15, 1860, to May 1, 1860.
Third course from October 1, 1860, to January 15, 1861.
Fourth course from January 15, 1861, to May 1, 1861.

LISTS OF SUBJECTS STUDIED IN THE HUMBOLDT-INSTITUT.

First Course from October 1, 1859, to January 15, 1860:

1—Experimental Physics	Prof. Goebel,	5	hours per week
2—Inorganic Chemistry and Mineralogy	Prof. Stieren,	6	" " "
3—General and Descriptive Botany	Prof. Hilgard,	2	" " "
4—Zoology	Prof. Hilgard,	2	" " "
5—Microscopic Anatomy	Prof. Behr,	2	" " "
6—Descriptive Anatomy:			
(a) Osteology, Syndesmology, Myology and Angiology	Prof. Hammer,	4	" " "
(b) Neurology, Splanchnology and Special Senses	Prof. Hilgard,	4	" " "
7—Physiology	Prof. Bernays,	5	" " "
8—Dissections.			

Second Course from January 15, 1860, to May 1, 1860:

1—Organic and Pharmaceutical Chemistry	Prof. Stieren,	4	hours per week
2—Comparative Anatomy	Prof. Hilgard,	2	" " "
3—Pharmaceutical Botany	Prof. Hilgard,	2	" " "
4—Topographic Anatomy	Prof. Hammer,	2	" " "
5—General Pathology and Therapeutics	Prof. Roesch,	3	" " "
6—Surgery and Bandaging	Prof. Hammer,	6	" " "
7—Obstetrics	Prof. Bernays,	4	" " "
8—Materia Medica	Prof. Behr,	4	" " "
9—Dissections.			

Third Course from October 1, 1860, to January 15, 1861:

1—Special Pathology and Therapy	Prof. Roesch,	5	hours per week
2—Surgical Operations	Prof. Hammer,	3	" " "
3—Ophthalmology	Prof. Hammer,	2	" " "
4—Toxicology	Prof. Stieren,	2	" " "
5—Diseases of Women and Children	Prof. Bernays,	2	" " "
6—Clinic:			
(a) Medical	Prof. Roesch,	4	" " "
(b) Surgical and Ophthalmic	Prof. Hammer,	4	" " "
(c) Obstetric	Prof. Bernays,	4	" " "
7—Dissections.			

PROSPECTUS.

OF THE

Course of Instruction

IN THE

HUMBOLDT MEDICAL COLLEGE.

WINTER SESSION,

Commencing September 17, 1866.

Saint Louis, Mo.:
P. M. PINCKARD, PRINTER, NO. 510 PINE STREET.
1866.

Title-page of the First Announcement of the Humboldt Medical College.

Fourth Course from January 15, 1861, to May 1, 1861:

1—Syphilis and Diseases of the Genito-Urinary Organs	Prof. Hammer,	2	hours per week
2—Medical Jurisprudence	Prof. Bernays,	2	" " "
3—Pathologic Anatomy	Prof. Behr,	3	" " "
4—Clinic:			
(a) Medical	Prof. Roesch,	4	" " "
(b) Surgical and Ophthalmic	Prof. Hammer,	4	" " "
(c) Obstetric	Prof. Bernays,	4	" " "
5—Dissections.			

Note "C."

HUMBOLDT MEDICAL COLLEGE.

At the breaking out of the Civil War, in 1861, Dr. Hammer enlisted for three months as Lieutenant-Colonel of the Fourth Missouri Infantry. Retiring from the field he was appointed Brigade Surgeon and acted in this capacity until the end of the conflict. It is perhaps needless to say that Dr. Hammer, like so many of the German citizens of St. Louis, was on the side of the Union. Returning to St. Louis he re-established his college under the name "Humboldt Medical College," and adopted the English language as the medium for teaching. This institution was chartered by Irwin Z. Smith, H. W. Leffingwell, J. S. B. Alleyne, A. Hammer, H. S. Leffingwell, A. Wadgymar, D. V. Dean, E. F. Smith, David W. Goebel, Barton Able, John C. Vogle and Fred. Schulenburg.

The first meeting of the incorporators was held at No. 72 Elm street, on the 8th day of June, 1866, at 2 p. m.

"In 1866 the friends of a more thorough and systematic education of medical students, under a liberal charter from the legislature, erected the Humboldt Medical College, on a valuable lot secured on a favorable lease having twenty years to run. This lot is on the corner of Linn and Soulard streets, opposite the City Hospital. The building was erected at a cost of over eight thousand dollars. Of this amount nearly five thousand dollars have been subscribed and paid by the trustees and a few friends of the enterprise."—MS. in hands of St. Medical History Club, dated 1867.

The Humboldt Medical College was a high-grade medical school, requiring sixteen months of actual college work, at a time when other American colleges were graduating their classes on two terms of four months' duration. Lectures were given during 1866-67, '67-68 and '68-69. The Humboldt Medical College graduated three classes, in all 22 men. In the summer of 1869, a split occurred in the faculty. Instruction in the Humboldt College was discontinued. A part of the faculty organized the St. Louis College of Physicians & Surgeons.

FACULTY OF THE HUMBOLDT MEDICAL COLLEGE, 1866-67.

D. GOEBEL, PH.D.,
Professor of Natural Philosophy.

A. WADGYMAR, M. D.,
Professor of Chemistry and Botany.

H. S. LEFFINGWELL, M. D.,
Professor of General and Descriptive Anatomy.

D. V. DEAN, M. D.,
Professor of Physiology, Histology and Toxicology.

G. M. B. MAUGHS, M. D.,
Acting Professor of Materia Medica and Therapeutics.

I. P. VAUGHAN, M. D.,
Professor of Theory and Practice of Medicine and Clinical Medicine.

A. HAMMER, M. D.,
Professor of Principles and Practice of Surgery, Ophthalmology and Clinical Surgery.

G. M. B. MAUGHS, M. D.,
Professor of Obstetrics and Diseases of Women and Children.

HON. JAMES J. LINDLEY,
Professor of Legal Medicine.

A. HAMMER, M. D.,
Acting Professor of Pathological Anatomy.

A. J. STEELE, M. D.,
Prosector and Demonstrator of Anatomy.

CHARLES HEYER, M. D.,
Assistant to the Chair of Pathological Anatomy and Curator of the Pathological Museum.

P. J. LINGENFELDER, M. D.,
Assistant to the Chair of Clinical Medicine.

A. HAMMER, M. D.,
Dean.

H. S. LEFFINGWELL, M. D.,
Secretary.

Note "D."

FACULTY OF THE ST. LOUIS COLLEGE OF PHYSICIANS & SURGEONS.
1869-70.

LOUIS BAUER, M. D., M. R. C. S., Eng.,
Professor of Surgery.

MONTROSE A. PALLEN, M. D.,
Professor of Gynæcology.

AUGUSTUS F. BARNES, M. D.,
Professor of Obstetrics.

T. F. PREWITT, M. D.,
Professor of Surgical Anatomy and Diseases of the Skin.

J. K. BAUDUY, M. D.,
Professor of Diseases of the Mind and Nervous System.

JOHN GREEN, M. D.,
Professor of Ophthalmology.

G. BAUMGARTEN, M. D.,
Professor of General Pathology and Pathological Anatomy.

I. G. W. STEEDMAN, M. D.,
Professor of Clinical Surgery and Diseases of the Genito-Urinary Organs.

W. B. OUTTEN, M. D.,
Professor of Descriptive Anatomy.

A. J. STEELE, M. D.,
Professor of Military and Minor Surgery, Fractures and Dislocations.

F. H. McARDLE, M. D.,
Professor of Chemistry.

J. M. LEETE, M. D.,
Professor of Physical Diagnosis and Diseases of the Chest.

J. M. SCOTT, M. D.,
Professor of Practice of Medicine and Clinical Medicine.

CHARLES E. BRIGGS, M. D.,
Professor of Physiology.

WM. L. BARRETT, M. D.,
Professor of Diseases of Children.

JAMES F. JOHNSON, M. D.,
Professor of Materia Medica and Toxicology.

WM. T. MASON, LLB.,
Professor of Medical Jurisprudence.

ALBERT G. JACKES, M. D.,
Demonstrator of Anatomy and Curator of the Museum.

Note "E."

DR. HAMMER'S CASE OF EXCISION OF THE SCAPULA.

This important case was reported under the following title: "Successful Extirpation of the Entire Left Scapula and Acromial End of the Clavicle, with Preservation of the Arm."—*Medical Reporter* (St. Louis), March, 1866.

Dr. Hammer was under the impression that this was the second case on record, the first one having been operated by Prof. B. Langenbeck, of Berlin, in 1855; but further search showed that Prof. Syme, of Edinburgh, had made the same operation three times (October, 1856; October, 1862; and November, 1863). Dr. Hammer's operation was made in September, 1860, and it was supposed to be the third one. A further search of the literature shows that Dr. Hammer's case was the fifth one.

Note "F."

MEDICAL EDUCATION IN 1867.

I.

The state of medical education in the year 1867, as regards not only Missouri but the entire country, and the attitude of the St. Louis and the Missouri Medical Colleges, may be judged by the following editorial which appeared in the *Humboldt Medical Archives,* October, 1867, page 109:

"MEDICAL EDUCATION.

We have received the circular of the committee appointed by the Convention of Delegates from Medical Colleges, called for the purpose of revising the system of Medical College Instruction in this country, and which convened in Cincinnati May 3d, 1867. This circular is addressed to 'Medical Colleges,' and puts some very pertinent questions to them. How they will respond remains to be seen, but we venture to believe that the object to be attained will not be accomplished. Why we utter such a proposition, is owing to the fact that the profession is not yet sufficiently impressed with the idea that knowledge, not pretence, is necessary. Here in St. Louis, the Humboldt Medical College, the pioneer in reform, the first and only school in the length and breadth of the land which essays this mighty gage, receives the *congratulations* of the medical community, who send their students where they can easiest graduate, and not where they are indoctrinated from the simple to the complex, as is requested by the committee, composed of Drs. Davis, Gross, Blackman and Donaldson. We tell these gentlemen not to wait for a simultaneous action of the entire number of medical schools in the country, but to urge their own faculties to buckle on the harness and go forth to the fight. If they do it, representing four great colleges, then we will be just that number more of valiant soldiers doing battle in a good cause.

What if the number of students falls off, gentlemen professors, for a few years? Are you not willing and anxious to promote the welfare of your profession? You certainly do not desire to make any money out of your professorships, for if you did, then you would not labor so hard for the general welfare. Make the sacrifice now, and then the other colleges will not hesitate to follow your example, but until you act more, and talk less, we are disposed to believe that the Teachers' Convention will result in a *fiasco*.

Here in St. Louis, notwithstanding every one admits the principle of reform in medical education, two powerful schools do all they can not to promote it. One school absolutely repudiated the Convention in Cincinnati, and the other failed to be represented. If we of St. Louis are divided in the proportion of two to one against medical reform, as regards the courses of instruction of medical colleges, how are we to judge of the whole country? We have our opinions on these matters, and we shall see, that to accomplish great results, corresponding sacrifices must be made."

II.

(*Humboldt Medical Archives,* December, 1867.) At a meeting of the St. Louis Medical Society, held on the 26th day of October, 1867, a committee was appointed "to invite the medical profession of the State of Missouri to assemble in convention, in the City of St. Louis, on the second Tuesday of December, 1867, at 12 M., for the purpose of

re-organizing a State Medical Association, and to take some steps toward securing the passage of an act, by the Missouri Legislature, having for its object the future suppression of knavery and quackery in the profession."

The convention met at the appointed time, and, after effecting an organization, listened to a communication from the St. Louis Medical Society, which, after numerous preambles, says:

"Therefore, we beg leave, respectfully to suggest, that on the part of this Association a memorial be presented to the Legislature of the State of Missouri, requesting that body to enact a law to the following effect:

"1. That hereafter each and every person, midwives included, before being permitted to engage in the practice of medicine in any of its branches in the State of Missouri, shall be required to give ample and satisfactory evidence of qualification before a board of medical examiners, to be appointed every four years by the Medical Association of the State of Missouri, subject to the approval of the Governor, and to be located in the City of St. Louis. The board to consist of five members, whose duty it shall be to examine carefully and rigorously everyone applying for examination, and if found worthy and competent, to grant a certificate to the same.

"2. That persons applying for examination may have the privilege of using either the German or French language, instead of the English, in undergoing their examination.

"3. That any person violating this enactment shall not be permitted to collect any fee by law, and shall be fined $—— for each and every offense, and suffer imprisonment until such fine be paid.

Respectfully,

A. Hammer, M. D.,
Chairman of the Committee.
M. Martin, M. D.
M. L. Linton, M. D.
S. J. Newman, M. D."

This communication gave rise to a prolonged and violent discussion lasting the greater part of two days.

"After an ineffectual effort to rescind the rule fixing the time for taking the vote at ten o'clock, the vote was taken upon the memorial, and resulted 52 in favor of and 38 against the memorial, 32 not voting, as follows:

AYES.

H. B. Allen, R. S. Anderson, St. Louis, Mo.; E. L. Atkinson, Washington, Mo.; S. C. Baldwin, W. N. Brennan, J. F. Berghoff, W. S. Barker, G. H. Blickhahn, S. H. Bottomley, —— Birch, St. Louis,

Mo.; J. P. Chesney, New Market, Mo.; E. E. Coleman, St. Louis, Mo.; G. F. Dudley, D. V. Dean, J. T. Douglas, Fred. Fricke, J. E. Folsom, N. Guhman, N. M. Glasfelter, J. E. Gaverret, A. Green, A. Hammer, T. H. Hammond, R. J. Hill, S. P. Ives, Wm. Johnston, H. Judd, T. Kennard, M. L. Linton, J. M. Leete, C. V. F. Ludwig, W. A. Madill, St. Louis, Mo.; J. J. Miller, Normandy, Mo.; Drake M'Dowell, Alex. Marshall, W. Niehaus, James O'Gallagher, W. B. Outten, M. A. Pallen, St. Louis, Mo.; J. B. Pondrow, Jefferson City, Mo.; C. D. Payne, Moselle, Mo.; J. F. Prewitt, James T. Pirtle, J. F. Rumbold, C. C. Spencer, A. J. Steele, I. G. W. Steadman, J. Spiegelhalter, Jas. R. Washington, J. L. Whipple, J. C. Whitehill, J. M. Youngblood, St. Louis.

NAYS.

J. S. B. Alleyne, B. A. Barrett, St. Louis; J. F. Barbour, New Madrid, Mo.; A. F. Barnes, G. H. Baumgarten, J. Bates, J. W. Clemens, St. Louis; J. Blane, St. James, Mo.; W. H. Cooper, E. De-Courcillon, W. Dickinson, St. Louis; J. P. H. Gray, California, Mo.; J. Green, St. Louis; S. Griswood, New Haven, Mo.; W. W. Grissom, G. Hurt, A. Jaminet, A. Kueckelhan, E. S. Lemoine, St. Louis; W. Lough, Kirksville, Mo.; R. B. Lewis, Flat Hill, Mo.; E. Montgomery, G. M. B. Maughs, St. Louis; L. J. Mathews, Lebanon, Mo.; H. F. Steinhauer, Sappington, Mo.; John Shore, J. M. Scott, B. F. Shumard, C. Sprague, R. Trevey, J. H. Watters, N. C. Washington, St. Louis; G. A. Williams, Boonville, Mo.

NOT VOTING.

V. H. Auler, C. E. Briggs, St. Louis; D. L. Bassett, Florissant, Mo.; G. S. Bryant, E. Beukendorf, J. Fisher, E. H. Gregory, St. Louis; H. C. Gibson, Boonville, Mo.; W. A. Gibson, St. Louis; P. A. Heitz, Palmyra, Mo.; J. Heitzig, J. T. Hodgen, J. F. Johnson, J. B. Johnson, D. Kuhn, J. J. McDowell, M. Martin, G. E. McCosh, P. E. Noel, H. Nagel, C. F. O'Neil, M. M. Pallen, H. C. Pococke, St. Louis; J. Pitman, Kirkwood; F. G. Porter, St. Louis; T. L. Rivers, St. Charles; C. G. Rohlfing, St. Louis; W. Rannells, Laclede; F. Shade, A. Strothotte, R. H. Slingleiff, Fred Wolf, St. Louis."

Note "G."

DEATH OF DR. HAMMER.

Dr. Hammer left St. Louis April 20, 1877, for Germany, intending to pass his remaining days in the Fatherland. He died August 4, 1878.

RESOLUTIONS OF RESPECT.

A meeting of members of the medical profession was held in St. Louis on August 28, 1878, to take action upon the death of Dr. Adam Hammer. A committee offered the following resolutions, which were adopted:

"The victorious general builds the monuments that commemorate his fame upon pyramids of human bones, and his kindred and countrymen glory over his record inscribed in characters of blood. The statesman, the orator, the poet and the preacher transmit their names to posterity by the brilliancy of their intellect and the merit of their deeds. Our noblest and greatest achievements are accomplished in silence and seclusion, without aspirations for glory or hope of reward, where the pestilential poisons permeate the hovels of the poor or the purlieus of the outcasts, the noble, brave and philanthropic physician pursues his profession purely to perform his duty. Let the present glorious, but unchronicled heroism of the medical men of the South, in their terrible trials amidst the scourge of yellow fever, bear eloquent testimony to their bravery and unselfishness—even the imminent danger of death does not deter them from duty. It is our sad duty to-day to pay the last tribute of respect to the memory of one, who, through his devotion to science, his brilliancy of intellect, and his perseverance in the practice of his profession has added something to our storehouse of knowledge.

"Dr. Hammer had his friends and his enemies; but what man of talent has not? Now that he is dead, let us forget his faults and cherish his memory as that of one whose first and last love was for his profession; one who struggled unto death's door desirous of doing his duty; one whose great mind and good deeds entitle him to be enrolled among the benefactors of mankind; one whom the members of the medical profession of St. Louis will ever be proud to acknowledge as their companion and compeer. His reputation was not confined to this city, for his thorough knowledge of the minutest details of his profession, and his great readiness in debate, had rendered his name familiar to most medical men of eminence in Missouri and the United States, and made for him friends among the renowned of Europe. He has written many valuable papers, and delivered some of the ablest lectures ever listened to by students in Missouri.

"He introduced the use of ether in the practice of obstetrics in Germany, simultaneously with Dubois in Paris, and Sir James Y. Simpson in Edinburgh, without, at that time, knowing of the experiments of those renowned men. He was also among the first to explain the true pathology of sunstroke and its proper treatment. So that if he had accomplished nothing of importance in his special fields of study—surgery and pathology—he would still have been entitled to the respect of his profession and the gratitude of mankind. Let us extend our sincere sympathy to his widow and other relatives, and transmit to them a copy of these proceedings in token of the high regard that we entertained for the deceased.

THOMAS KENNARD,
T. F. PREWITT,
ADOLPHUS NEUBERT,
Committee."

(*Missouri Republican,* Thursday, August 29, 1878.)



A Diploma of the Humboldt Medical College.

DR. WILLIAM B. HAZARD'S TRIBUTE TO DR. HAMMER.

"He was one of those keen, incisive minds that do an immense amount of good; arousing the energies of others by their aggressive tendencies. He was one who scattered the seeds of knowledge broadcast, and put new life and energy into others by his example and precept.

"With high attainments and brilliant endowments, he took great pride in being well informed on all subjects of scientific progress, and was ever ready to diffuse his knowledge for the benefit of the profession. For this he will be long and gratefully remembered."—*St. Louis Clinical Record,* September, 1878.

Note "H."

THE HUMBOLDT MEDICAL COLLEGE DIPLOMA.

Note "H." The diplomas issued by the Humboldt Medical College measured 15½x21½ inches and were in Latin. A lithographic picture —circular in form—of Alexander von Humboldt, was pasted on the upper part of the parchment.

Shortly before the college was abandoned a new diploma was designed, a portrait of Humboldt being lithographed on the same sheet with the text. An example of the first type of diploma is shown in the accompanying illustration.

The diploma shown was issued to Francis Joseph Arzt, on the 14th of April, 1868. It bears the names of the following professors:

A. Hammer, Professor of Surgery and Dean of Faculty.

H. S. Leffingwell, Professor of Descriptive and Topographical Anatomy.

Charles Heyer, Adjunct Professor of Diseases of the Chest and Physical Diagnosis.

D. V. Dean, Professor of Physiology and Histology.

A. Kueckelhan, Professor of Therapeutics.

G. M. B. Maughs, Professor of Obstetrics and Diseases of Women.

Jas. C. Whitehill, Professor of Theory and Practice and Clinical Medicine.

A. J. Steele, Adjunct Professor of Surgery.

F. W. Sennewald, Professor of Pharmacy.

Felix McArdle, Professor of Chemistry.

Geo. M. Stewart, Professor of Legal Medicine.

4500 Olive st.

TUBERCULOSIS AS THE GENERAL PRACTITIONER SEES IT.*

By O. H. Brown, M. D., Mt. Vernon, Mo.

By the way of introduction, let me say that it is always the "old maid" at the Mothers' Convention who has the longest and the wordiest discussion on the raising of children, and it is the editor of the would-be Farm and Farmers' Journal who expounds the loudest and hardest on the proper management of a farm. On first thought these instances are only amusing; but while the "old maid" and the editor may be entirely impractical in their respective lives, which is usually not the case, they serve the purpose of stimulating some thinking along new paths.

The tuberculosis patients come directly from the general practitioner to the sanatorium, where they stay usually for several months. In my association with a patient there I learn to know something of his former physician, as well as something of the disease. I therefore offer no apology for addressing you under the caption, "Tuberculosis as the General Practitioner Sees It."

Tuberculosis is a disease that is known to have existed twenty-five centuries ago. During the Dark Ages the civilized world was dominated by an unholy theology which demanded absolute submission and adherence to the belief that plagues and epidemics were evidences of an angry Providence. And it was not until the tenth or eleventh century that there was sufficient freedom of thought for there to be any suggestion of the real nature of disease. Not until the seventeenth century was it believed that tuberculosis was infectious; then in some instances precaution was taken against its spread. And I do not need to tell you that it was as recent as 1881 when Koch discovered the tubercle bacillus, the cause of this disease. In 1873, only one short generation ago, Edward L. Trudeau, then a young physician, went to the Adirondack wilderness to try to prolong his life. He was not expected to live, but he did more than live—he demonstrated the curability of tuberculosis. The campaign in the United States against "The Great White Plague" dates from 1885, when Trudeau founded the Adirondack Cottage Sanatorium. Missouri was the fourth State in the Union to found a sanatorium for the treatment of incipient pulmonary tuberculosis.

All people who are ill, if seen by a physician at all, are usually seen first by the general practitioner. Just what per cent. of all sick people are suffering from tuberculosis is impossible to even conjecture; but reliable statistics inform us that one of every eight or ten deaths is due to tuberculosis. Autopsy records show that a large per cent. of people dying from other causes than tuberculosis have at one time or another had tuberculosis.

*Read in the Medical Section, Fifty-second Annual Meeting, Missouri State Medical Association, Jefferson City, May, 1909.

When we consider these statements, it becomes apparent that the general practitioner must see a large number of people who are ill from tuberculosis. While the great scientists and leaders can plan the campaign against "The Great White Plague," it remains for the general practitioner, the private in the ranks, to execute the plans. Just as in a great mortal combat between men, where it is about the head of the private that the bullets and missiles of strife rain the heaviest, so it is in this fight against the most dread disease of mankind—upon the shoulders of the general practitioner must rest the brunt of the burden. He is usually an overworked, occasionally abused, illy paid, much respected, greatly depended upon and an indispensable and honored citizen of every community. I take off my hat, gentlemen, to the general practitioner.

He sees tuberculosis in all its forms and stages, except possibly in its very earliest stages, the very time when he should see it. You will doubtless all accept the statement that a case of tuberculosis, if taken within the first two or three weeks of the inception of its active evidence, will usually respond promptly and satisfactorily to treatment. This brings me up to the main subject matter of the paper. The points that I desire to cover are: firstly, how to get the patients to come to you sufficiently early; secondly, how to recognize pulmonary tuberculosis; thirdly, sanatorium treatment for pulmonary tuberculosis; fourthly, home treatment of pulmonary tuberculosis.

In regard to point one: From a business standpoint alone, if not from a moral standpoint, every physician should feel it his duty to teach the laity that there are certain definite evidences of the early stages of consumption, that these should be recognized and that a physician should be consulted.

Every layman should be given information to the effect that overwork, worry, colds, grip, poor nutrition, etc., predispose to tuberculosis. A prolonged cold, a hacking or morning cough, slight expectoration coming from trachea or lower down, a decline in weight, slight afternoon fever, a flush on cheeks in afternoon, hemorrhage from the lungs, tickling in the trachea, gurgling or rattling or wheezing in the chest, night sweats, pleuritic pain, etc., are usually the first evidences of tuberculosis that the patient will observe. The perplexing question that presents itself is: "How are we to get the laity in possession of these facts?" This can best be done by didactic lectures, illustrated lectures, exhibitions, pamphlets and circulars. Perhaps the most feasible plan for getting lecturers and circulars is through the Missouri State Association for the Relief and Prevention of Tuberculosis. Interest some of the leading citizens of your respective communities in the necessity of the anti-tuberculosis work; with their aid form an anti-tuberculosis league or society, a subdivision of the State organization. Correspond with R. J. Newton, Secretary of the State Society, and see what suggestions he can give. I offer the above as a feasible beginning of an anti-tuberculosis crusade.

The value of these crusades will be scarcely overestimated. Recently a series of exhibitions and lectures were held in Kansas City and the Sanatorium has had more applicants from this place, in the last two months, since the exhibition, than in the previous eighteen months.

In regard to point two: To make a diagnosis of tuberculosis, the patient should be studied in regard to: 1st, the history of his symptoms and, 2d, his physical condition. Any machine, even the human machine, may be apparently in splendid physical condition, and yet will not perform its functions properly; and on the other hand, it may be in very evident unfit condition and yet, in the execution of its functions it may give very little evidence of its unfitness. So I repeat, take heed of what evidence you can elicit from the patient's observations as well as what you can find by examining his body. To get a good history from a patient it is necessary to ask numerous pointed questions. I believe I am safe in saying that it is the rare physician that takes uniformly good histories. In this short paper I cannot go deep into this point, even though such is extremely important. I would have you ask specifically about the cough, whether hacking, or spasmodic, or whooping, or morning or evening; ask also about the tickling or irritation that incites the cough. Find out about the amount, appearance, odor and source—pharynx, trachea or lower—of the sputum. Get all possible facts about the temperature, the night sweats, the chills, the weakness, the nervousness, etc. In case of blood spitting, find out if blood was bright and frothy or whether discolored and partially digested. In short, I would have you go into the history of every symptom in an analytical manner.

In making an examination, strip the patient to the waist and use your eyes and ears to the fullest capacity. I would have you watch especially for areas of dullness and for areas of increased bronchophony. The latter point, the increased plainness of transmission of the whispered voice sound, is of the greatest significance. This finding alone, if accompanied by a typical history, is sufficient evidence on which to make a diagnosis of tuberculosis. Usually with the increased bronchophony there will be dullness, increased pitch of breathing, prolonged expiration, roughness, cog-wheel breathing, rales, a retracted area of the chest and restricted motion of the corresponding side.

In view of the two facts, firstly, that tuberculosis is very prevalent and, secondly, that an early diagnosis is of such paramount importance, I say to you, make your diagnosis of incipient pulmonary tuberculosis, even in the face of some doubt, and place your patient promptly on the proper treatment. In the event of your diagnosis being correct, you perchance have saved your patient's life, and the course of rest and good food will usually do any other trouble some good.

In regard to the sanatorium treatment there is much to say, but brevity must characterize my remarks. The treatment of pulmonary consumption hinges, to an extreme extent, directly upon two points, namely, the giving to the lungs the greatest rest possible, and the building

up of the body to the highest vigor. To accomplish the former, complete and relaxing, mental and physical, rest in the open air is the most efficacious; and for the latter, nutritious food, often in large amounts and usually more than the appetite craves, must be taken. I desire to emphasize the point of rest. For years we have taught and been taught that deep breathing and active outdoor exercise were both indicated in tuberculosis. I say to you, emphatically, this is wrong, and but helps to send the victim on down to the grave. When the patient is only slightly affected with tuberculosis a certain amount of exercise is indicated, but it should be as carefully managed as full doses of strychnine.

I endeavor in all my sanatorium practice to dose out the exercise as carefully as I dose out the poisonous drugs. During the first few weeks that a patient is at the sanatorium, he is kept in or on his bed. He may dress, go to the toilet, and usually sits up to a table for his meals. Some cases are allowed to go into the dining-room after the first week, in the event that there are no marked symptoms of activity of the disease. Usually within a week or two after the beginning of "The Cure," a patient's temperature will be reduced, his weight will be increased from two to ten pounds, and his cough and expectoration will both be slightly bettered. The great difficulty is that the patients soon get to feel so well that they want to be up and doing and it is often impossible to hold some of them down.

During the last twenty-one months we have treated over two hundred patients at the sanatorium. There have been several deaths in the sanatorium. Four of these were from advanced tuberculosis, one from heart disease, one from typhoid, and one from tubercular cerebrospinal meningitis. One-fourth of the two hundred patients were plainly far unsuitable for the treatment at the sanatorium. The disease was either too far advanced or there existed complications of a more or less serious nature. In spite of this there have only been five patients who have done badly in the sanatorium so far as their lungs were concerned. Ten others of the fifty did badly after they left the sanatorium. Several of these did very nicely while in the sanatorium, but after going home lost rapidly. The point that I would emphasize is, that of the two hundred patients, fifty far advanced, that we have had, all but about eight or ten actually made improvement in lung condition while at the sanatorium. Every case anywhere near the incipient stage that we have treated, did well. Does this not speak volumes for the methods we employ?

To show you how promptly the results sometimes come, I desire to mention two or three cases very briefly. The first patient that we had came with some fever, some cough, some expectoration and some hoarseness. She had had hemorrhages. Inside of three weeks her cough, fever and expectoration were all gone, and within a few weeks longer her hoarseness had left her and within two months she had gained 12 to 15 pounds. She is now doing stenographic work in St. Louis and is apparently well.

Perhaps the most striking case I have had was a lady who drove from Boone County in a covered wagon. She had been living out of doors, taking half-mile walks every morning, and had been helping about the camp, and had also been taking some medicine. I had her stop all exercise but allowed her to continue taking the medicine. She began a most astonishing convalescence. Her fever dropped from 102 and 103 to normal, her cough and expectoration decreased rapidly and in five months she went home apparently well, weighing 33 pounds more than when I first saw her. She reports that she is doing very well. I could recite dozens of cases that would illustrate the same points. We so often see patients suffer a relapse from doing too much. Perhaps it is a walk to town and back, or perhaps it is getting excited or frightened at or interested in something that does the harm. The patient that has good common sense and good nerve is the one that will do the best, other things being equal.

To recapitulate on the sanatorium treatment, the important instruments to use are the thermometer and the scale. We keep the patients in bed a week after all fever is gone and keep them eating a sufficient amount to cause them to gain until the proper weight is attained. My experience teaches me that enforced rest and, in some cases, enforced eating are essential. This is the all important law, and the degree of effectiveness of the law depends entirely upon how carefully and nicely it is interpreted and applied. We avoid medicine unless it is plainly indicated. Our results show conclusively that climate does not play the part for which it was formerly given credit.

The home treatment may with difficulty be just as effective as the sanatorium treatment. In the home, however, there is too much to interest the patient and, unless he is totally unable to be up, he will not remain quietly in bed. The discipline of the home is not so rigid as that of the sanatorium. At home usually when the patient feels like doing something he does it, whereas in the sanatorium he is promptly restrained. But not all of the consumptives of the State can be taken into the sanatorium. We have only room for forty-eight (but we are caring for eighty). When necessary, then try home treatment. Put the patient to bed on a screened veranda. Have him nursed as strictly as though he had pneumonia. Make him eat enough to gain a pound or two every week. Keep him as quiet as possible until his fever has disappeared and until his cough and expectoration are much improved. Then the exertion must be begun most cautiously. It must be held in mind that the patient is weaker than when he went to bed. A small amount of exercise means more than it did. Begin by letting him sit up, then later let him begin taking short walks once a week, lengthening them each week so long as no bad effects are noticed. From this on increase the work very cautiously. In case of a backset, all the strict rest has to be gone through with again.

In concluding my remarks, I would impress upon you that the suc-

cessful handling of tuberculosis patients is not easy, even by the plans I have outlined. Every case is a law unto itself. Just as it is impossible for you or me to say that every case of pulmonary tuberculosis must have a certain chain of symptoms, so is it impossible for you or me to outline a practical, effective course of treatment to be applied to every case alike. Let me beg of you, study yourself, study the patient, study the disease and study this "Great Problem."

DISCUSSION.

Dr. John M. Bell, St. Joseph: According to statistics recently published, there has been, if any change, an increase in the disease in New York. I think it is coming nearer the truth when they state that animals are the cause of it. It is found from absolute observation, that from 40 to 45 per cent. of animals killed have tuberculous glands, usually mesenteric glands. In the feces in practically every case the bacilli can be found. I would suggest a recognition of what is regarded as the pretuberculous stage. It is recognized as a condition in which there is a rise of temperature, particularly toward evening, sensitive mucous membranes and pulse increasing and weak. When we have this rise of temperature of half a degree in the afternoon and with it sensitive mucous membranes, persisting for months, tuberculosis should be looked for. If we are brave enough to condemn such a patient and put him on proper treatment we can accomplish much.

Dr. William Porter, St. Louis: I would especially refer to the statement that in New York no reduction has been made in the number of cases of tuberculosis. I cannot accept that statement without verification. I had a statement from the health commissioner of New York that in the Borough of the Bronx, the reduction in the last decade had been 73 per cent., and that with their exact methods of information they are now recording more cases than ever before. It might appear that the disease is increasing in St. Louis, but that is not the fact; it is that merely more cases are being reported. I want to take up just one point on which Dr. Brown speaks,—the value of early diagnosis. Agreeing with all the rest that he has said, it is the early discovery that warrants our using the term prevention or cure of tuberculosis. It has been very recently said that tuberculosis is one of the most curable of the communicable diseases. It can be stamped out, along with smallpox and other parasitic diseases which we have practically overcome. The period of duration is about two and one-half years and many of these cases during that time can be restored to health. If the disease is in the closed stage there may be no evidence in the sputum and not much in the chest. The bacillus colonizes in some infundibulum and there is a thickening of the walls and the air exit and entrance is prevented. The elasticity of the cell wall is interfered with. Here is found a slight roughening, local and circumscribed, with a prolonged expiratory murmur at that point. The first symptoms are this roughening and prolonged expiratory murmur.

Later is dullness, crepitation, etc., which anybody can interpret. Those of you who have a mechanical vibrator and will place this vibrator at the back of the chest and allow the vibrations to be made more or less forcible, by listening very carefully with the stethoscope, I am sure that you can detect the variations in transmissions of impulse better than by any other method. The early recognition is the important point beyond all others. It is the early case that is getting well at the sanatorium.

In conclusion, let me say that I hope you will all send official representatives from your county societies to see what is being done at Mt. Vernon.

Dr. Wolf, Kansas City: The importance of early diagnosis I would especially urge upon examiners for life insurance companies. I have had occasion to look over reports sent in from life insurance companies and I find that the death rate from tuberculosis is still about one-seventh of all the deaths reported.

Dr. Schauffler, Kansas City: The majority of cases that come to the sanatorium at Mt. Vernon are not as early as would be desirable. Often the attention of the physician is called by the parents or friends to a run down condition, the individual easily getting tired, and all those little things which the anxious parent notes, and when they come to the doctor they are told that all the patient needs is a tonic—and he gives the patient a tonic and lets him go. I would emphasize the fact that you should eliminate everything else and then, in the presence of this slight elevation of temperature and loss of weight, the presumption is that you have to deal with tuberculosis. I do not know how many cases I have had in the years gone by of tolerably well developed pulmonary tuberculosis brought to me with a diagnosis by the physician of malaria. If you have this thing in mind and believe it to be tuberculosis, if it is not proven something else, more of these cases will be cured.

Dr. C. T. Ryland, Lexington: The great difficulty I meet with is in getting the family of the patient to admit that the patient has tuberculosis. They want to conceal it and when I suggest that they have an incipient tuberculosis, I am asked to keep it quiet. If they have typhoid fever they may be a little proud of it and want all their friends to know about it. But in case of tuberculosis they want to keep it concealed. I recently had a report of great improvement made in a case of tuberculosis that I sent to Mt. Vernon, though I had not expected them to accept the case because it was so far advanced.

Dr. Brown, in closing: There are two causes back of every disease: the predisposing cause and the exciting cause. We must not ignore either.

It is no doubt true that many cases come from cattle or from careless expectoration, but if you keep yourself in good health you are not in such danger as when you are run down.

Concerning violent exercise, I would emphasize the danger of it. In these cases a diseased tissue is surrounded by an inflamed area showing

nature's efforts to encyst it. If a patient is allowed to exercise violently the increased breathing will carry this poison out through the system. You may reply that this is a good thing,—but, it should be done so gradually that it does no harm. The antitoxin, the phagocytes, etc., are our aids and we do not want to paralyze them by forcing poison into the blood.

Since August, 1907, we have had two hundred patients at the sanatorium. The majority of these were not incipient according to the definition of the National Association for the Study of Tuberculosis. Perhaps fifty of them were clearly advanced cases, but every patient, barring six or seven, has made great improvement while there. I do not mean to say that every patient has been cured, but I do say that, while there, they improve. Some were there but a few weeks and this improvement was noticed even in such cases. Every incipient case has done well.

I would emphasize the point that this disease is insidious. The slight cough, the slight temperature in the afternoon, etc., do not make much impression on the patient's mind. He will state that he does not believe he is sick. If the patient felt as sick as he really is there would be no trouble in getting him to take the "cure."

We need to do more educational work to teach people that tuberculosis is not such a dread disease when recognized early and properly treated.

In conclusion, I want to extend an invitation to each and every one of you to visit the sanatorium.

ACUTE PULMONARY EDEMA WITH REPORT OF CASES.*

By James Q. Chambers, M. D., Kansas City, Mo.

As to what is meant by the term pulmonary edema we are, I should think, in the main agreed, *i. e.,* an outpouring of blood serum into the lung alveoli and perialveolar tissues. This exudate, ordinarily frothy and clear, may at times be tinged pinkish or even scarlet from an admixture of red corpuscles. Edemas of this character, varying in degree, are common enough, particularly in circulatory troubles, and, for example, explain in part the persistent cough which frequently marks the early stage of a cardiac insufficiency. Again they may play a part in the terminal stages of many prolonged diseases, such as arteriosclerosis, nephritis, diabetes, the anæmias and various cachexias. In hypostatic or posture pneumonia the edematous process is an important factor.

However, it is not this class of cases which we frequently find, and generally pass over as of little moment as the mere collaterals of graver troubles, that we wish to consider. Rather would we direct your attention to that group of pulmonary edemas very sudden in onset, generalized in character, and of so terrible a nature that the victim must needs perish unless relief comes quickly. Between these two types, the first, which one commonly sees, and the second, which he seldom meets, there are all grades of intensity and rapidity. But it is chiefly those of the fulminating type that our remarks concern.

Case I. Idiopathic. Mrs. G. Age 68 or 70. Seen only once in an emergency call, December 28, 1903. About thirty minutes previously, an hour or so after a very hearty meal, was seized by one of her spells, or strokes, the conspicuous feature of which was dyspnœa and suffocation. When I reached her she was comatose, cyanotic in the extreme, skin livid, turgid veins of face and neck. Breathing short, labored and inefficient. The aspect was that of imminent death. However, a hasty examination found an excited, laboring heart with good pulse, and a chest filled everywhere with rales, small, large, crepitant, bubbling. Froth filled her mouth and at each expiration was blown forth from the parted lips in a scattering spray. An inspection of the eyes and face, together with a restless motion of all her limbs seemed to preclude a diagnosis of cerebral apoplexy, which the case much resembled. With no acquaintance or experience with such cases to guide me, but feeling that the outpouring of secretion into the lung spaces was the chief point of embarrassment, I gave, hypodermically, ⅛ gr. morphine and 1-100 gr. atropine. Results were almost magical. Within five or ten minutes the expression of the face and, in fact, of the entire body was one of beginning relief. Within thirty minutes cyanosis was distinctly less, respiration less frequent, less

*Read in the Medical Section at the Annual Meeting, Missouri State Medical Association, Jefferson City, 1909.

labored, and consciousness had returned sufficiently for the patient to reach with her hands toward her chest and throat as the origin of her discomfort. At this juncture her family physician relieved me of connection with the case. From him, however, I learned that thirty-six hours thereafter she was up and about, that she has no distinct lesions of heart, lungs or kidneys; that this was the same sort of an attack which she had had a year or so previous which showed distinct though transient hemiplegic symptoms (suggesting the cerebral irritation often present in these attacks). For five years now she has suffered no recurrence.

Case II. Arteriosclerosis and Aortic Insufficiency. Mr. S. Age 60. Family and personal history somewhat vague. Was under observation two years, suffering from what seemed a progressive arterial degeneration, with numerous interesting and protean phases. Finally developed a well-defined aortic insufficiency first discovered shortly after one of his epilepitform convulsions. One night, getting up suddenly from his bed to void urine, after standing a moment, he fell back gasping and in great distress. Thirty minutes later, when I reached him, he was dead. His mouth was filled with froth, and by compressing the thorax bimanually quantities of the same material were exuded.

Case III. Cardiac. Mitral Regurgitation and Pericarditis. Miss McC. Age 38. Bad family history. Father died of chronic lung trouble at 65. Mother died at 62 from spleno-myelogenous leukemia. One brother at 41 died of rapid interstitial nephritis and apoplexy. One brother and two sisters living and well. Family of marked obesity, showing in patient at age of 12 after severe scarlet fever, before which she was slender. No rheumatism. For a year increasing dyspnœa on exertion with aginoid attacks in upper substernal and throat regions. Cough somewhat constant. Chest examination revealed a few rales small, piping and sticky, an enlarged heart area, particularly in left auricular and right ventricular areas. A systolic murmur centered at apex and heard over left ventricle, in axilla and posteriorly. Slight albuminuria. A classic mitral regurgitation. Five months later, after a period of fair health and strength, she became ill with a grippy attack, consisting of a bronchitis and pericarditis. Proceeding cautiously she again, after a three months' rest, resumed her work as teacher. Nearly a year later, that is, March, 1908, she was attacked again, after ten days of over-exertion, with bronchitis fever, cough, orthopnœa and slight cyanosis. Here was evidently a strained heart, a passive congestion and superadded pulmonary infection. Counter-irritation, brisk catharsis and appropriate stimulants quickly relieved her, and during each of the three succeeding days her progress was so rapid that she insisted on returning to her school. On the contrary, however, the strictest rest was enjoined. Nevertheless, on this third day of improvement, she violated all orders by sitting up reading, by going up and down stairs, by a half dozen trips to bath room, etc. At 3:00 o'clock the next morning I

was called and found her again in wretched plight. Dyspnœic, cyanotic, and lungs everywhere obstructed. Counter-irritation, stimulants, oxygen, venesection (1 pint) all failed. Comatose by 7 o'clock and death by 3 p. m. During the last few hours blood-tinged froth came constantly up into her mouth.

Case IV. Influenza and Broncho-pneumonia. Jno. S. Age 33. Ill one week with grip and broncho-pneumonia. On July 23, 1904, about one a. m., seized by a so-called convulsion. His own physician saw him immediately. Within an hour three others were with him in consultation. The patient was comatose and quite cyanotic. The pulse was rapid, regular and of fair tension. No definite lesion was found in the heart. No disturbance of pupils or other evidences of palsy. Respiration quite labored and the lungs everywhere were full of rales. An incised vein at the elbow let out one-half pint tarry blood that escaped with great difficulty. In spite of this and stimulants his condition grew worse from hour to hour. By three a. m. oxygen was procured, under which a slow improvement began. Forty-eight hours of oxygen, almost continuously, was necessary to restore consciousness. His condition for several days was quite encouraging. But, finally, heart, lungs, brain, kidneys, all began to show dissolution, and he died nine days after this first paroxysm, not so much, it seemed to me, the victim of a special cardiac, or kidney failure (as we are wont to say), but rather of a progressive toxemia of pulmonic origin.

The first urinalysis, after his initial paroxysm, showed considerable albumin and casts. In fact we nearly agreed in considering his seizure uremic. However, in view of the uncertain report of his seizure, such as struggling, getting black in the face and unconscious, in view of the fact that the lungs were already the main point of attack, in view of the relief which only oxygen afforded, I am inclined to think that this might have been an attack of pulmonary edema in the midst of pneumonic grip superinduced, no doubt, by the toxic nephritis present.

Case V. Cardiac. Mitral Obstruction and Regurgitation. Jno. M. C. Age 70. For many years the victim of mitral derangement which allowed only light employment. Seen in two similar attacks about a year apart. Ordinarily reasonably comfortable. A short description of one attack will suffice. Responding to a hurry call I found him lying on the floor in the front hall-way where he had been overtaken. Conscious. Lying half turned on his face, cyanotic, gasping for breath, begging piteously not to be touched or moved for fear of impeding his breath, already so difficult. Pulse extremely rapid, weak and irregular. His lungs were everywhere obstructed, moist rales, fine and coarse, were heard throughout. A hypodermic of morphine and atropine afforded him some prompt relief, which counter-irritation and purgation completed. By the third day he was eager to resume his work. This spring, a year later, he was seen in a similar attack. A few months ago while down in the country he had a seizure and perished.

In explanation of this very interesting clinical phenomenon, as represented by the foregoing cases, a number of hypotheses have been proposed—all beyond the range of demonstration:

First. The mechanical theory presupposing a loss of balance between the energy of left and right ventricles, whereby the former weakening while the right heart continues with its usual or increased force and engorges the pulmonic system. This seems logical enough, but clinically some of the most fulminating cases will show a bounding systemic pulse, with no sign of left ventricle failure.

Second. The irritative action of bacteria in the lung parenchyma, for sundry microörganisms have been found abundantly in edematous lungs. As a direct cause, unless through toxins, it seems incredible that a fulminating, generalized condition could be so induced, to subside, it may be, in twenty-four hours.

Third. A theory of toxins affecting the tone of the pulmonary tissues, perhaps as a part of a general cachexia, or working also through the innervation of these vascular structures allowing, by vaso-motor influences, a stasis and permeability of vessel walls.

At all events, these attacks do occur, and unless primarily fatal, are prone to repeat themselves, in a variety of profoundly cachectic or toxic states, *e. g.,* Bright's disease, diabetes, pernicious anæmias, influenza, typhoid, etc. The cardiac and arteriosclerotic cases are very readily understood, for here in addition to the cachexia and toxemia from imperfect metabolism of long standing, we may have a failing left ventricle to aid the process.

In the interesting case reported by Riesman, where several severe attacks occurred only during pregnancy, one might appeal to the toxins of the gravid state in explanation, or else place the phenomenon in that long list of reflex neuroses which occur in the pregnant condition.

Finally, as in the first case of our series, where an over-indulgence in food may have been the exciting cause, we may conceive of a susceptibility from degenerative vascular changes incident to old age, plus an autointoxication neurosis of alimentary origin.

However this all may be, there are several important deductions warranted by a study of these cases:

First. Acute pulmonary edema is a distinct clinical entity, possessing fairly definite symptoms.

Second. The frequency of its occurrence, its etiology, its diagnosis and treatment deserve greater consideration than the authorities allow. Osler's Practice (1902) gives a two-line reference to its possibility. Tyson (1903) makes no mention of it. Osler's Modern Medicine (1907) in 1,500 pages devoted to diseases of the chest, disposes of the subject in one or two paragraphs. Babcock, in his monograph, "Diseases of the Heart and Arterial System," describes in a graphic manner many sudden seizures in connection with cardiac troubles, but lays no stress on acute pulmonary edema, from which many of his cases must have suffered.

Third. Because of the slight importance accorded it, many cases pass unrecognized and are classified as uremic attacks, acute cardiac dilatation, angina pectoris, or cerebral apoplexy, which seizures it may closely simulate.

Fourth. The importance of a full conception and prompt recognition of this condition is made even greater by the fact that death is often imminent, and yet in a fair proportion of instances well directed therapy will tide them over. From our own experiences and from reported cases, we would depend for emergency remedies on atropine, oxygen, morphine cautiously, if there is great mental and physical distress, and generally free venesection. Of slower action, but also efficient, are counter-irritation by sinapisms and cups, free purgation, and appropriate cardiac stimulants.

Fifth. A noteworthy characteristic of these attacks is their proneness to recur in the same individual. Three of our cases showed this tendency. Another peculiarity is their frequency at night. Other observers note this. With the above cases five out of seven seizures were nocturnal.

DISCUSSION.

Dr. C. R. Woodson, St. Joseph: I would ask the essayist the age of case one?

Dr. Chambers, Kansas City: The patient was about 7 years old.

Dr. C. R. Woodson, St. Joseph: I am strongly inclined to believe that there was more of a nervous aspect to this case than of pulmonic disturbance. The mode of onset is characteristic of vascular changes in the central nervous system, and especially the termination of the case and the yielding to the remedies applied, all point to vascular changes in the central nervous system. The changes in the lung are, in my opinion, the result of vasomotor disturbance. The suddenness of the onset and the yielding to the hypodermic injection of morphine and atropin, convinces me that there was more of a cerebral than of a pulmonic disturbance. Referring to case No. 2, I have seen many apoplectiform attacks as a result of paresis, and I have seen such cases yield to the remedy he applied; sometimes within an hour or perhaps a day the patient would be up, although perhaps he would not be quite up to the standard before the attack. Usually there is some lethargy and a sluggishness of the mind. I have watched such patients and when I have noted such symptoms of mental confusion, I have given an injection of morphine and atropin and in many instances I have prevented the attack. In case No. 3, while the family history counts for much, I think that perhaps the foundation was laid from some other source. I am inclined to believe that in an individual of that age the condition is probably due to a luetic infection. I am unable to trace a single case of paresis at that age in which there was not a luetic condition existing before. Coming from a nervous family it is possible that the powers of inhibition were greatly lessened.

Dr. I. J. Wolf, Kansas City: Acute pulmonary edema is of more frequent occurrence than we generally assume. It certainly does occur as the terminal stage in a great variety of diseases of the heart, blood vessels, etc., and only those who have made many post-mortem examinations will appreciate how often it is found. Pulmonary edema is probably one of the most frequent occurrences at the terminal stage of many of the diseases the doctor mentioned. I saw a case not long ago that might have been called hemorrhagic edema, for the fluid was very much tinged with blood.

Dr. N. P. Wood, Independence: I want to mention venesection in connection with this subject. Where there is marked cyanosis and where the heart is having a hard time in carrying on the circulation, and is being nourished by a blood that is not well oxygenated, it is sometimes of very great value. There are about 17½ pounds of blood in the body, so that about 50,000 pounds of blood must be received and disposed of by the heart within twenty-four hours. To relieve the heart of even two pounds of this blood, taken away by venesection, means something like 5,000 pounds of blood within twenty-four hours that the heart does not have to receive and dispose of. While this is not curative, it does give temporary relief. And an opportunity to apply the desired therapeutic measures.

Dr. William Porter, St. Louis: I wish we were brave enough to use venesection in certain conditions in pneumonia, more frequently in true pneumonia where there is a diminution of the chlorides, an abnormal tendency to coagulation of the fibrin, and an overburdened right heart. I believe the classical and rational treatment is to relieve the stasis, lessen the demand on the heart and, at the same time, restore the soluble salts and diminish the total amount of toxins. The first, where these conditions exist, can be accomplished by venesection. Possibly in no other disease does the pulse, the color, the respiration, respond so quickly to the abstraction of blood in effective amounts. If the amount of blood withdrawn can be slowly substituted by the normal salt solution, we accomplish the second class of results. The Bulletin of the Johns Hopkins Hospital, some time ago, contained some most instructive deductions from the venous injection of normal salt solution in lobar pneumonia.

I cite but one case in my own practice where the two methods were combined. During a term of service as consultant at our City Hospital, I asked the resident medical assistant to notify me at once when lobar pneumonia cases came in. One day when I could not be reached, he proceeded to do as I had outlined. When I got to the ward I found an old man of sixty, an alcoholic, suffering from double lobar pneumonia, with all the clinical and physical symptoms and a low muttering delirium. The only evidence of consciousness was his resistance to attempts to give any kind of medication. The assistant had already opened a vein and the dark blood coagulated almost upon reaching the vessel. Twenty-four ounces were removed and the pulse became better, the heart sounds

more distinct, and respiration was reduced from over 38 to 30. The capillary circulation, as noticed in the lips and finger tips, improved. After a short time we began the slow, venous injection of the normal salt solution at a temperature of 100°. About the same quantity of this solution as equaled the amount of blood withdrawn was used, but there was no return of distress, either of circulation or respiration. The patient—one of a class for whom no great hopes of recovery are ever entertained—got well without any further treatment except rest and food. He steadily refused medicine and it was not urged.

My experience in this case has been repeated a number of times, but this seemed to be the most striking and positive. In cases of this kind, I believe that in venesection and the injection of the normal salt solution, we have a rational and effective method of treatment, but one only to be used in cases where the indications are plainly shown.

Dr. R. T. Sloan, Kansas City: It seems to me we have been discussing several different conditions. We have been confounding a congestive condition of the lungs with a pure edema. Of course a passive congestion due to right heart failure, accompanied by more or less edema, is one thing; the edema that is found in cases of pneumonia associated with congestion is another and finally the pure pulmonary edema that we see in Bright's disease without heart failure, is an entirely different thing. I believe it is purely a toxic condition and that the heart has nothing to do with it; venesection, therefore, is uncalled for, whereas it is of the greatest advantage in passive congestion. In the acute pulmonary edema we see in Bright's disease, there is a toxic condition and the mechanical part of it, if it exists at all, is very slight. As Dr. Woodson suggests, it probably has its effect through the nervous system. Atropin has some effect and morphine a good effect, for it is a tranquilizing effect. Venesection for pure edema of the lung is bad practice, for it is a purely toxic and not a heart condition at all. I have seen cases brought to autopsy in which the heart was in perfect condition. I think this condition is allied to that local condition called angioneurotic edema.

Dr. Chambers, in closing: It seems to me that we are all pretty nearly agreed. There are some minor points of difference, but if we could get together and talk it over we would agree thoroughly on the fundamental processes. I would have preferred if my cases had been all of the pure type, but I believe the first was the only one that was conspicuously purely and simply a pulmonary edema. The others had complications accompanying, doubtless, congestive and inflammatory troubles. Dr. Woodson lays special stress upon the nervous element in this condition and Dr. Sloan suggests it might be similar to angioneurotic edema. As a matter of fact, the first case did have pronounced cerebral symptoms at the first attack, at which time it was diagnosed as a cerebral apoplexy. I think this fulminating condition can come only through a nervous influence. In connection with case 3, I may not have read the

notes clearly enough, but it was shown that the case had a bad family history and that a brother developed paresis. This brother, as Dr. Woodson infers, did have a luetic infection twenty years ago and this paresis was the consequence of it. I am pleased with what has been said about venesection. A practitioner in Kansas City, not long ago, remarked that he wondered how the old-fashioned doctors ever got into the habit of venesection. I had not been practicing long until I saw some good effects following hemorrhage. The results of hemorrhage in typhoid have, in my experience, been very good. In a number of cases the temperature dropped and the patients were in great part relieved of toxemia and made an uninterrupted recovery. The only thing to account for the sudden and prompt relief of those patients was the hemorrhage. I recall an epidemic of mumps in a boys' school. Orchitis was frequent. In two cases hyperpyrexia ensued; the temperature was 106° plus, and each of these two boys was in a wild delirium from the fever. In both cases a copious nose bleed occurred and from this state of violent delirium with high fever the temperature immediately dropped, and they at once became rational and comfortable. It is an experience with all of us that we see eclamptic women relieved simply by the copious flow of blood that follows the birth of a child. Thus it is easy to see how our forefathers got into the habit of venesection. It is better, usually, for a patient to lose a certain percentage of blood, if highly charged with toxins, than to have the whole volume. The relief of that portion of the toxins is a relief to the patient. I think Dr. Sloan indicated that in his discussion. It is not only the relief of the toxins, but even the mechanical relief is often a life-saving measure. I am inclined to think that in nearly all these cases of pulmonary edema there is a toxemia underlying it—the toxemia in Bright's disease, in typhoid fever, in influenza, a toxemia that occurs in any heart trouble, where the metabolism has been imperfect—and that this toxemia through the vasomotors causes the outpour of serum into the alveoli.

THE ART OF REFRACTION.*

By John Green, Jr., M. D., St. Louis, Mo.

The major part of every oculist's work, variously estimated at from 50% to 75%, consists in measuring the refraction of the eye. Since the publication of Donder's classical work, "The Anomalies of Accommodation and Refraction of the Eye,"—several generations of oculists have given this subject earnest consideration and careful study. The publication, by Snellen, of a standard series of test types, the invention of the various charts for the detection and measurement of astigmatism, the objective measurement of the refraction by the ophthalmoscope, the invention of the ophthalmometer, the use of cycloplegics, and lately the development of the shadow-test, are earnest of the universal efforts to secure means of accurately measuring the refraction of the eye. One might naturally infer that, as a result of this exhaustive study, the methods of examination would be definitely fixed. That this is far from being so I am sure all will agree. Rather it appears that there are scarcely two oculists who, in all particulars, follow the same routine. Granted that there is more than one way to kill a cat, and that all roads lead to Rome, it seems rather extraordinary that there should not be some "best method" approved by the preponderance of authority.

Despite the thorough manner in which methods have been discussed, there still remains serious disagreement on some of the essential points. If we listen to the "Philadelphia School," for instance, we learn that an attempt to measure the refraction without a cycloplegic is little short of criminal, and will inevitably be followed by failure to relieve the symptoms. Our friends in New York, ridiculing the Philadelphia idea, pin their faith to the ophthalmometer and forswear the use of cycloplegics. And thus the merry war is waged to the confusion and bewilderment of the young oculist.

The writers of text-books vie with one another in giving lucid and minute descriptions of ocular diseases, pathologic ocular lesions and methods of treatment. *Per contra,* there seems to have been a conspiracy to wrap the subject of refraction in an impenetrable veil by discussing it in abstract generalities. Granted that practical refraction can only be learned by contact with patients in the refraction room, that fact should not excuse the vague, and generally unsatisfactory, treatment which the subject receives in the average text-book.

The subject being in this chaotic state, it follows that the beginner in refraction, not being able to select a method which has the weight of

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authority, is perforce compelled to work out his own salvation. He will weigh this and that suggestion and finally, by a process of selection, will adopt a routine, which, in his estimation, fulfills the requirements. In this paper I desire to present my own method, without claiming for it any conspicuous merit. The details will be gone into somewhat at length as I desire to escape the charge of abstractness and vagueness. I do not claim that the method is infallible and have no doubt that many points will be brought out in the discussion which may lead me to modify my present routine. It is only by a free interchange of views that we shall ever arrive at anything like a satisfactory and generally accepted method.

In the first place I have styled my paper the "Art of Refraction," and by that I mean the art of selecting lenses which, in any given case, will abolish the symptoms for which the patient consults us. We should never forget that the patient consults us to secure relief. He is not at all enthusiastic that we, in our pride, have learned to measure his static refraction to the 1/8th of a diopter. He wants a glass that will enable him to perform his ocular function without strain or difficulty. He does not wish to be forever reminded that he has a pair of eyes. He demands relief from pain and from headache. If we do not give him this, we have not mastered the "art of refraction," however skillful we may be in its scientific application.

As a preliminary to the study of a case of refraction, I deem it important to secure a general idea of the patient's physical condition, with especial reference to recent ailments. I believe that the oculist should approach every case primarily from the standpoint of the physician. As, in most cases, it is not feasible or practicable to subject the patient to a general physical examination, it follows that we must depend mainly on the anamnesis to furnish a clue to the origin of symptoms. The inquiry should be directed especially to eliciting a possible nasal or accessory sinus involvement; nor should we neglect to ask questions with respect to the general conditions, especially gastric and intestinal disorders, and, in a woman, pelvic and menstrual anomalies.

By thus obtaining at the outset a general survey of the patient's general condition, it is often possible to direct our inquiry at once into channels proper for the immediate elucidation of the problem at hand. In my own experience it is surprising how frequently I have come upon a train of symptoms that led me immediately to abandon ocular examination and to refer the patient to a rhinologist, a neurologist, internist or a gynecologist for examination. In a word the oculist's attitude at the conclusion of his history taking should be, either that the case is not primarily within his jurisdiction, or, by the reasonable exclusion of extra ocular factors, that the origin of the symptoms depends on uncorrected ametropia or muscular imbalance.

A discussion with respect to the previous ocular history is then entered into and I make it a point to secure a consecutive history of any

and all eye-symptoms from the earliest age of the patient to the present. If headache exists, its kind, periodicity, location, etc., is discussed. The ability to use the eyes under various conditions is entered into, and the occurrence of local or reflex manifestations is dwelt upon. By thus entering systematically into the subject, facts are frequently elicited which may have a distinct bearing on the present management of the case. The next step consists in taking the vision of the patient for distance and near, with each eye separately and without a correcting glass (I hope I may be pardoned for alluding to many perfectly obvious points, but, as I stated, I desire to take a personal view and to escape the charge of vagueness). Immediately upon the conclusion of this test I make a careful examination with the ophthalmometer. In the presence of astigmatism I determine with all accuracy the axis and amount of the corneal astigmatism to the end that I may have at the very outset a guide to the general "roughing out" of the case. Let us suppose that V without lens is 6-8, and that the ophthalmometer indicates an astigmatism of 2 D. with the axis at 90°. It is fair to assume that the refraction is a hyperopic astigmatism. I immediately place a plus 3 Sph. on both eyes and take the vision first with the two eyes then with each separately. The vision will probably be found to be 6-10 or 6-12. Wearing plus 3 Sph. the patient is then allowed to wait for 10-15 minutes in the waiting room to secure, if possible, some relaxation of his accommodation. On his return to the refraction room, his attention is at once directed to the astigmatic charts—and I greatly prefer the charts of Verhoeff—and he is asked to select the sharpest and blackest line. If, as is probable, he selects the 90°, I substitute the second chart and begin by adding minus cyls. at 180° beginning with —.25 and substituting successively stronger — cyls. in increasing strengths until the two principal lines are equalized. Let us suppose that on the addition of —1.5 cyl., axis 180, the lines are rendered uniform. Vision has now risen to 6-8. A weak — sph. (.25 D.) is added and the patient's vision has risen to 6-6 plus. The patient is now asked to confine his attention to the finer lines comprising the quadrants, and he is asked to compare the upper and lower sections (of horizontal lines) with the lateral sections (of vertical lines). It will frequently be found that, although the principle or wide lines appear perfectly uniform, there is something in favor of one or the other set of sections. Usually the addition of a —.12 or + .12 cyl. axis 180° will suffice to render the entire diagram perfectly uniform. Vision will now be 6-6 or better. A slight shift in the axis of the cyl. will often appreciably sharpen the letters.

I have dwelt thus minutely on the well-known "fogging" method because I believe that, patiently applied, it will, in the great majority of cases, yield a measurement which, while it may differ somewhat from the static refraction, is of great value in indicating to the examiner the glass which the patient will accept with comfort. Those who have not adopted this, or a similar method, will be surprised to find how fre-

quently the result approximates the static refraction. Of course, if we are dealing with an accommodative spasm, the difference between the two results will be considerable.

After the fellow eye has been similarly tested, the patient is placed in a comfortable position, in a good light. He is given a recent issue of a well-printed magazine (preferably one with several sizes of type) and is instructed to *read continuously without lifting the eyes from the paper.* This test is prolonged for from ½ to 1½ hours. From time to time the examiner approaches the patient and inquires how all is going; if the answer is satisfactory, the patient is directed to continue to read.

By this test several important points are determined: In the first place, is the correction comfortable and pleasant or otherwise? Second, does it at first seem uncomfortable, and as the reading is prolonged become more acceptable? Third, are symptoms, such as blurring or wavering of the letters, drawing sensations, pain in the eyes and head, reflex nausea, etc., less marked or abolished or *vice versa?* In a word, does it appear likely that this manifest correction will ameliorate or abolish the symptoms, or is the patient undecided as to the effect of the glasses, or, on the contrary, do they seem to accentuate the symptoms?

This preliminary examination, occupying, as it does, the better part of two hours, leaves the patient in a state of ocular and mental fatigue. At this point the following prescription is given: Homatropin hydrobromate, gr. 1; cocain hydrochlor, gr. ¼; aquæ dest, ʒss., with directions to instill one drop in each eye at bed time and on arising the following morning. The patient is directed to bring the drops to the office, where the office assistant begins the instillation at regular intervals of 10 minutes until five drops have been instilled. Thirty-five minutes after the last drop has been used the examination is begun by taking the distant vision of the eyes now thoroughly under the influence of the cycloplegic.

Immediately thereafter the patient is placed in the dark room and the examination of the refraction with the skiascope made. It is unnecessary to enter into the details of this method so familiar to all of you. My preference is for the method with the plain mirror, with the source of illumination above and a little behind the patient's head.

To facilitate the determination of the distance between the examiner and the patient, a tape one meter long is attached to the trial frame. After determining the point of reversal for the meridian of least refraction, cylinders of varying strengths at the appropriate axis are added until reversal is obtained to all meridians. Great pains are taken to determine the exact axis as well as the amount of astigmatism as it has been my experience that the more careful one is in applying this test, the more nearly will his result coincide with the trial-case measurement.

The lens combination, as determined by skiascopy, is then placed before the eyes and the vision taken. The next step consists in varying the

combination of lenses to determine whether some combination, other than the one indicated by the skiascope, may not be preferred. To this end I have adopted the routine suggested by Duane and styled by him the "Round of the Trial Case." The correction being in general a spherical glass A. and a cylinder B. I add, one after another.

1. A convex sphere, say + .5.
2. A convex cylinder with its axis in the axis of B
3. The same cylinder with its axis at right angles to B } + .5 cyl.
4. A concave cylinder with its axis in the axis of B
5. The same cylinder with its axis at right angles to B } — .5 cyl.
6. A concave sphere. — .5 sph.

These additions form, as pointed out by Duane, a series of combinations which represent practically all changes that can be made in the sphero-cylinder combination A. B. Then if A. and B. are both convex, the additions made will be:

1. Add to A. and leave B. alone.
2. Add to B. and leave A. alone.
3. Diminish B. and add to A.
4. Diminish B. and leave A. alone.
5. Increase B. and diminish A.
6. Diminish A. and leave B. alone.

As soon as, in making the round, it appears that the added glass has improved vision, the resultant combination is substituted, and the "Round of the Trial Case" repeated, this time with .25 D. spheres and cylinders.

I very shortly reach the point where I get a combination that is not improved by any addition (+ or — sphere or cylinder). Slight variations are then made in the axis of the cylinder, which, if accepted as an improvement, is adopted. A disc with a 4 mm. circular opening is then slipped in front of the combination in order to exclude extra pupillary rays. If the combination is correct, this will have the effect of materially sharpening the letters.

The examination under a cycloplegic concluded, the patient is directed to return in a few days for the post-cycloplegic test. This is conducted in two ways: First, the method with the aid of astigmatic charts (described as the preliminary test) is used and the result reached in a precisely similar manner; second, the combination obtained under cycloplegia is placed before the eyes and by conducting a "Round of the Trial Case," it is determined to what extent the cycloplegic finding may have to be modified. Needless to say, the results of these two methods generally agree very closely.

By adopting the above described routine, the examiner is in possession of the following facts:

1. A knowledge of the dynamic refraction carefully worked out.
2. A knowledge of the actual behavior of the eyes for far and near under the influence of this "dynamic" correction.
3. A knowledge of the static refraction and of the difference between the dynamic and the static.
4. A knowledge of the manner in which the eyes respond to tests after the cycloplegic has worn off.

(I may say parenthetically that as this paper is confined to a discussion of the "art of refraction," no allusion will be made to abnormal functioning of the extrinsic ocular muscles, or muscles of accommodation. Such abnormalities will often demand modification of the refractive findings.)

The examiner, in possession of these facts, must then determine precisely the strength and combination of lenses that in all likelihood will give the patient *immediate relief*. How far shall the prescription deviate from the manifest correction? Shall a balance be struck between the dynamic and the static result? If the axis of the cylinder differ in the two measurements, which shall be accepted? Shall the full static result be accepted? These are the principal problems that confront us and demand for their solution the nicest tact, judgment and discrimination, which can only be acquired by prolonged contact with patients in the refraction room.

Let us not forget that the patient comes to us for relief, immediate relief. Do oculists who order a pair of glasses on the basis of the static result alone, and tell the patient that he will get used to them in a month or so, realize that they are offering a stone where the cry is for bread? Why is it necessary to torture a patient with static glasses which our preliminary and post-cycloplegic tests indicate will not be tolerated? Is it not more rational to prescribe the glass which will give the patient immediate comfort and satisfaction? As we have a knowledge of his static refraction, we can foretell, with reasonable certainty, that, as time passes, more and more of his latent error will become manifest. By dealing frankly with the patient, impressing upon him our desire to give him immediate relief, and pointing out that the first correction must inevitably be replaced by a stronger one after the lapse of a certain time, we invite his coöperation to the end that his case may be carried to a successful issue.

One word with reference to the adjustment and mounting of the lenses. I have gained the impression that, as a general rule, oculists are content with indicating the formula of the lenses to the optician, and leave the details of the mounting to his judgment or the fancy of the patient. This practice might be defensible if the judgment of the optician were invariably sound, or if the fancy of the patient always demanded the mounting best adapted to his particular needs. That this

is very seldom the case, I am sure all of you will agree. The oculist is the one to decide what mounting will be most appropriate for each individual case. If his views and the patient's do not coincide (as is frequently the case), he should carefully give the reasons for his position and use every effort to win the patient to his way of thinking. I have so frequently seen the work of competent oculists nullified by improper mounting of the lenses, that I feel that we should, if only for our own protection, insist on the carrying out of all the details in accordance with our own ideas.

625 Metropolitan Bldg.

DISCUSSION.

Dr. A. E. Derwent, Clinton, believed the testing of muscle action is a very important part of the test. On first examining for esophoria and exophoria in the young adult with high degrees of hypermetrophia, it is not necessary to use two different pairs of glasses, one for distance and one for reading. A cycloplegia is usually unnecessary, except in the young. He uses a cycloplegia and skiascopy much less than formerly.

Dr. J. D. Pifer, Joplin, stated that he considered the method suggested by Dr. Green too long, tedious and complicated. He uses a cyclopegic, generally atropia if the patient can possibly spare the time. After finding what dynamic and static refraction of the eye, all guess work and uncertainty are eliminated. Where the patient's occupation requires close application of the eyes sufficient to produce any disturbance, such as local or remote irritation, he puts on glasses for constant wear, and generally gives full correction, putting the glasses on whilst the eyes are coming out from under the cyclopegic, thereby permitting them to accept more correction than they could later after the atropine had worn off.

Dr. John Green, Jr., in closing, said that his paper dealt only with the technic of refraction and not with muscle conditions. In regard to cycloplegia, he had found homatropine, in a 3% solution, a reliable cycloplegic, if used as stated in the paper. Exceptional cases require atropine or hyoscine. Full correction is usually rejected by patients. Under-correction, based on pre- and post-cycloplegic measurements, is more satisfactory, though the patient should be warned that a subsequent change is inevitable.

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EDITORIAL

THE ST. LOUIS MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

The American Medical Association will hold its sixty-first annual session in St. Louis in June, 1910, when it will devolve upon the profession of that city and of the entire State to entertain the visitors in a manner befitting the importance of the event so as to strengthen the traditions that have made our metropolis famous for its hospitality. Probably no city in the Union can rival St. Louis to-day in facilities for providing comfortable and convenient meeting places for the various sections, and for the entertainment of the Association; but we must, nevertheless, make an early beginning to gather funds and prepare plans for the proper reception and care of the large number of visitors who will undoubtedly attend the meeting. We appeal therefore to members throughout the State to respond liberally and promptly to the requests for contributions which the Committee of Arrangements will soon send out, and be prepared to support to the best of their ability every effort put forth for the success of the meeting and increase the prestige of the profession of Missouri.

The 1910 meeting of the Association will be the fourth that St. Louis has entertained, previous sessions having been held in 1854, 1873 and 1886, so that an interval of twenty-four years will have elapsed since the Association last met in Missouri. It is interesting, in this connection,

to remind the members that Missouri has had the honor of furnishing three presidents of the Association, Dr. Charles Pope in 1854, Dr. John T. Hodgen in 1881, and Dr. E. H. Gregory in 1887.

The coming meeting of the Association will afford the profession of Missouri an opportunity to become intimately acquainted with the workings of this great and influential organization, an organization which has grown, in a few short years, from a discordant band of unorganized and purposeless individuals to a mighty army of trained warriors in the battle against dirt, disease and death. Their achievements, and promises for future triumphs, in alleviating the sufferings of mankind and lengthening the span of life, have revealed to the people the true character of the doctor—the conservator and protector of the life of the nation. If this characterization of the rank which the doctor fills seems too high, let us quote the words of a layman whose writings have commanded the thoughtful attention of the greatest minds of our time: "All sane human beings agree," says Rudyard Kipling "that this long fight for time which we call life is one of the most important things in the world, if not the most important, and the doctors, who plan and conduct and who reënforce this fight, are among the most important people in the world." This estimate of the high position which the doctor occupies in the varied and diversified fields in which man labors, and strives, for the solution of the mystery of life, may be disputed by some small minds, but their opinions do not concern us at this moment, for our remarks are intended as an inspiration to every member of the State Association, "Lest we forget" that this supremacy can be maintained only through combined effort, constancy to the principles of our creed, and through unity of purpose. We appeal therefore to every member of the State Association to join the American Medical Association at once, and prepare to attend the annual gathering in St. Louis next June. Let us have an outpouring of Missouri doctors at that meeting and set a standard for attendance of home doctors at all meetings in the future.

COLLECTION OF VITAL STATISTICS.

The law providing for the bureau of vital and mortuary statistics of Missouri became effective on August 15th, and the State Board of Health has announced that arrangements for carrying out the provisions of the law have been inaugurated. Offices have been opened in the old supreme court building at Jefferson City and official headquarters of the State Board of Health established at that place. The state registrar, who is also the secretary of the State Board of Health, will be

located permanently at Jefferson City, where he will receive and tabulate all reports from local registrars throughout the State. The State will be districted and a registrar appointed for each district. All cities and incorporated towns will constitute a primary district, and the territory of each county outside of such cities and incorporated towns will be defined and boundaries designated for a sufficient number of rural registration districts to insure complete and convenient registrations of births and deaths.

All physicians, midwives and undertakers are required, under this act, to register their names, addresses and occupation with the local registrar of the district in which they reside, but no charge can be exacted for doing so, as this registration is required for the purpose of placing in the office of the registrar a complete list of persons who, under the provisions of the vital statistics law, are required to make reports to the local registrar.

As soon as the workings of the law become effective every birth and death must be reported to the local registrar on blanks printed for the purpose and any physician or midwife who fails to comply with the law is subject to a fine of from $5.00 to $50.00 for each offense.

At the meeting of the State Board of Health in St. Louis, last month, Dr. J. A. B. Adcock resigned as secretary and Dr. Frank B. Hiller was elected to fill the office of secretary and state registrar. Dr. Adcock's long and faithful service as secretary of the State Board of Health was fittingly acknowledged by the adoption of resolutions extending to him a vote of thanks and expressing the high appreciation by the Board of his efficient services, as well as their regrets that he was prevented on account of his professional affiliations from removing his residence permanently to Jefferson City. Dr. Hiller, the new secretary, is thoroughly competent to execute the duties of the office, is highly esteemed, not only as a successful physician, but a man of estimable qualifications and experience in public health matters. He has been a member of the State Association for many years, has served as councilor and on important committees, and has always been identified with every forward movement in medical matters.

THE NEVADA STATE HOSPITAL EMBROGLIO.

Following upon the heel of the difficulties in the asylum at St. Joseph, the newspapers inform the public that Dr. G. C. Wilson, the recently appointed superintendent of the Nevada Asylum, has resigned. If the reasons for the resignation given in the pubilc prints are true, the retiring superintendent will have the respect and the commendation

of all right-thinking citizens and surely of the medical profession. It is reported that the recently appointed Board of Managers, to which Dr. Wilson owes his appointment, insisted upon curtailing his authority over the employees of the institution.

To say nothing of the law, which makes the superintendent responsible to the Board of Managers for all the employees, experience and common sense suggest that there can be but one head to a successfully managed institution. If the superintendent is to be harassed by boards, if he is to be in dread of having his orders not carried out, or so interfered with as to make them nugatory, no self-respecting and competent superintendent will continue in office under such a condition of affairs.

If a board of managers does not have the utmost confidence in the ability of a superintendent to conduct the institution for the best interests of the inmates and of the State, the superintendent should be removed and the proper person put in his place.

The time has passed when the people of this State will sit idly by and see the unfortunates who are thrown upon the State, made the price of political juggling; and above all will the organized medical profession of this State see to it that occurrences such as that at Nevada will be brought properly home to those in authority as well as to the people. Dr. Wilson will have the active support of the medical profession of this State in the stand which he has taken and we would suggest to the Governor that instead of having the resignation of Dr. Wilson accepted, he remove the Board of Managers and appoint one that will take a common sense and business-like view of the responsible duties of a superintendent of a State hospital.

PERSONAL AND NEWS NOTES

Dr. V. Q. Bonham has moved from New Franklin, where he has been practicing for many years, and has located in Fayette. Dr. Doke Gentle, formerly of the Female Hospital, in St. Louis, has succeeded Dr. Bonham at New Franklin.

Drugless healers and the followers of every other cult and ism who practice medicine in any of its branches in Missouri, must obtain a license from the State Board of Health, according to a ruling which emanates from the office of the attorney-general of the State.

The thirty-fifth annual meeting of the Mississippi Valley Medical Association will be held in St. Louis, October 12, 13 and 14, at the Southern Hotel. The arrangements for the entertainment of the Association, under the direction of Dr. Louis H. Behrens, have been almost completed and give promise of every possible attention to make the sojourn of the members in St. Louis a memorable occasion. The program of papers to be read is in charge of Dr. H. E. Tuley, 111 W. Kentucky street, Louisville. The principal addresses will be delivered by Dr. S. G. Bonney, oration on medicine, and Dr. John B. Deaver, oration on surgery.

Preparations are already well under way for the next annual meeting of the Medical Association of the Southwest at San Antonio, November 9-11, 1909. Many prominent members of the profession are expected to be present, a number of whom will deliver addresses and read papers. The secretary will do all that lies in his power to secure reduced railroad rates, and if those who expect to attend will drop a card to F. H. Clark, secretary-treasurer, at El Reno, Okla., stating that they expect to attend, it will assist him in securing reduced railroad rates. The headquarters will be at St. Anthony Hotel, which is one of the finest hotels in the Southwest, with ample accommodations for all who may attend. A considerable interest has been manifested in an excursion to the City of Mexico and the International Railroad has promised a rate of $26.00 for the round trip with many opportunities for side trips. All who are interested in this trip will confer a favor by writing the secretary so he may know about how many will go. The local committees are all hard at work and every one who attends will have the very best kind of a time. This, with the fact that San Antonio is one of the historic cities of this country, and the assurance of a splendid professional program, should bring the largest attendance that has ever gathered at these meetings.

COUNTY SOCIETY NOTES

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY.

The Cape Girardeau County Medical Society held its regular monthly meeting at Jackson, May 10th. The following members were present: Drs. Cunningham, Hays, Hope, Howard, Rosenthal, Statler, Vineyard and Wilson.

The McCormack committee reported that owing to conflict with the normal school exercises, they would try and change the time of holding the meeting.

The program for the evening consisted of a paper, entitled "Acute Inflammations of the Mucous Membranes of Upper Air Passages," by Dr. W. K. Statler, and a paper on the treatment of these conditions, by Dr. Trisler. Dr. Statler's paper was a very excellent one, the subject being presented in a most interesting and comprehensive manner. The other paper scheduled on the evening's program was not presented, owing to the abscence of Dr. Trisler.

Drs. Rosenthal and Cunningham reported a case of edema of the glottis. The report showed how greatly the profession is handicapped by neglect of the family to seek early medical assistance, so that proper treatment may be instituted at the right time, and that if called too late to render efficient assistance, the doctor usually is blamed when the result is unfavorable.—E. H. G. Wilson, M. D., Secretary.

CLINTON COUNTY MEDICAL SOCIETY.

The Clinton County Medical Society met in Plattsburg, April 20th, and held its quarterly meeting. There were present the following: Drs. Franklin, Peters and Gilliland, of Cameron; Dr. W. K. Porter, of Turney; Drs. Robinson and McConkey, of Lathrop; Dr. Sturgis, from Perrin; Drs. Steckman, Rea, Gant, Fulton and Chastain, from Plattsburg; visitors: Drs. Norberg and Frankenburger, of Kansas City.

Papers were read by Dr. Peters, Dr. Robertson, Dr. Sturgis, Dr. Norberg and Dr. Frankenburger.

HOWARD COUNTY MEDICAL SOCIETY.

The Howard County Medical Society met on June 4th, 1909. The following members were present: Drs. Wright, Bonham, Fleet, Richards, Lewis, Moore and Watts.

Dr. Watts read a paper entitled, "The New Treatment of Typhoid Fever," which was discussed by Drs. Wright, Moore and others. Drs. Richards and Fleet gave their experience with acetozone and sulphocarbolate of zinc.

Dr. Fleet presented a case of wound of the left ring finger, of O. F., aged 17 years, caused by a thorn, and further injured by a window falling upon it. The patient had some tetanic symptoms. Dr. Fleet used peroxide and dressed the wound with bichloride gauze; after that he

used echinacea, 20 gtt. every 6 hours, flushing the wound with it. He reported that the patient was doing well.

The secretary read a letter from the president of the Pure Food Magazine, Dr. Pierce. It was the unanimous opinion of the society that no artificial preservatives should be used, and the use of benzoate of soda was condemned in strong terms, the society endorsing the views of Dr. W. W. Keen.

The society adjourned to meet again, after hearing from the attorney-general and the secretary of the State Board of Health, as to the law regarding chiropractics.

MEETING OF JUNE 11, 1909.

The society convened on June 11th to consider the unfinished business of the meeting of June 4th. The following members were present: Drs. Bonham, Fleet, Lewis, Richards, Wright and Watts.

The secretary read the letters received from the attorney-general and the secretary of the State Board of Health.

Upon motion the following resolution was adopted and a copy ordered to be furnished to the Hon. Paul Prosser, prosecuting attorney of Howard County:

Resolved: That the prosecuting attorney be requested to investigate the question as to whether parties known as chiropractics have complied with the laws regulating the practice of medicine and surgery in healing diseases, physical and mental, in the county of Howard, State of Missouri, as we the members of the Howard County Medical Society have done.

The secretary was requested to present the resolution to the Hon. Paul Prosser, prosecuting attorney, Howard County Medical Society.

MEETING OF AUGUST 6TH.

The society convened at 2 p. m. in the office of the secretary at Fayette. Present: Drs. Gentle, Richards, N. E. Smith, Bonham, Fleet, C. O. Lewis, Burgwin and C. W. Watts.

Dr. Doke Gentle, formerly of St. Louis, now of New Franklin, Mo., was received as a member of this society by transfer from the St. Louis Medical Society.

The secretary reported the action of the circuit court as to the trial of the so-called chiropractics. The jury stood eight for conviction, four for acquittal. They will be tried again at the September term of court. These persons have been engaged in practice here for three months, regardless of the statutes of the State and the regulations of the State Board of Health.—C. W. WATTS, M. D., Secretary.

KNOX COUNTY MEDICAL SOCIETY.

The Knox County Medical Society met in special session at the call of the president, at Edina, on August 25th. Twenty-five physicians of the county were in attendance and a general discussion upon topics of scientific interest and subjects pertaining to the general welfare of the community made the occasion a profitable and encouraging renewal of society work in Knox County.

The meeting was held in the offices of Drs. L. S. and Geo. Brown, who served refreshments to the members during the intermission between sessions.

The society will meet again on the first Monday in December and at that time it is expected that all physicians in the county will be present.

A program has been arranged for the December meeting, which includes a discussion of the physical outlines of the heart, by Dr. H. Jurgens, and of the lungs by Dr. Luman. At this meeting also a number of cases will be presented for examination and diagnosis. A special invitation is extended to all physicians in Knox and adjoining counties to be present at the December meeting.—A. R. Wilsey, M. D., Secretary.

MACON COUNTY MEDICAL SOCIETY.

The Macon County Medical Society convened in the office of the secretary, with a good proportion of members present.

Dr. Hooper presented an interesting case of congenital deficiency of the heart.

Dr. Cambry presented a case of myocarditis secondary to cholecystitis, the infection being carried to the heart by the blood.

A paper was then read on painless angina and its differentiations from true angina and pseudo-angina.

As had been arranged, the doctors brought their wives and during the session of the society they assembled at the home of the secretary and spent three pleasant and profitable hours socially and automobile riding. After adjournment, the physicians joined their wives at the lawn party and a sumptous luncheon was partaken of, picnic fashion. The ladies were so delighted with the meeting, which afforded the doctors' wives an opportunity of getting together and getting acquainted, that they organized the Ladies' Auxillary to the Macon County Medical Society, to meet every three months. We commend this plan to other counties. The doctors' wives have small opportunity for getting acquainted, and this not only affords such opportunity, but it creates good fellowship among the doctors.

The society will continue the study of heart diseases during the next months. This is the most practical plan this society ever adopted. We are spending four months on heart diseases.—A. B. Miller, M. D., Secretary.

MISSISSIPPI COUNTY MEDICAL SOCIETY.

The Mississippi County Medical Society met in regular session at the offices of Drs. S. P. and A. Martin. The following members were present: Dr. S. P. Martin, Dr. A. Martin, Dr. Boggan, of East Prairie; Drs. Love and Wallace, of Bertrand, and Drs. Lynch, Chapman and Howle, of Charleston.

Dr. Boggan asked further time for preparing his paper on "Reminiscences of a Doctor."

Dr. Howle read a report of two cases of midwifery. This report was discussed by Drs. Wallace and Martin.

Dr. Lynch read some notes on "The Medical Treatment of Appendicitis," advocating complete rest in bed, the application of heat over the region of pain, and the use of enemas of olive oil and soap-suds. He believed that it was to the interests of patient and physician that the habit of sending cases away be discontinued and the patient be treated at home.

Discussing the paper, Dr. S. P. Martin said he did not think that

cases of appendicitis should be operated upon in the acute stage and that operations should be performed between attacks. Dr. Wallace said that the surgery of abscesses of the appendix did not differ from surgical procedures upon abscesses in other regions and that an opening should be made and the pus evacuated. Dr. Chapman said that one of the causes of unsuccessful after-treatment in the home was due to the fact that as a rule the doctors of a community were unaccustomed to work together concertedly, whereas in the hospital, nurses and assistants are trained in the routine practice by the attending physicians and therefore there is conflict of method.

Dr. S. P. Martin promised to prepare a paper for the next meeting on the subject of summer complaint.

MEETING OF JUNE 7TH.

The society met at Bertrand, with the following members present: Drs. S. P. and Albert Martin, of East Prairie; Dr. Finley, of Anniston; Drs. Love and Wallace, of Bertrand; Drs. Lynch and Howle, of Charleston.

The application for membership of Dr. R. P. Aldridge, of Anniston, was referred to the proper committee for action.

The resignation of Dr. Ogilvie was accepted and resolution of regrets at his loss by removal from the county, was adopted.

Dr. Wallace reported a case of malarial hematuria, complicated by an extreme enlargement of the prostate and spasmodic stricture, the latter rendering it almost impossible to enter a catheter. The case terminated fatally. The report was discussed by Drs. S. P. Martin, Howle and Lynch.

Dr. S. P. Martin read a paper on "Summer Complaint." The paper was well prepared and presented a comprehensive summary of the most recent and up-to-date views of leading authors. The paper was well received and freely discussed by all the members with little variation of opinion concerning the treatment. Dr. Wallace objected to forcible attempts to pass enemas through the ileo-cecal valve; Dr. Martin, too, doubted the expediency of such attempts.

Dr. Lynch reported a case showing some of the unhappy experiences a sick baby too often undergoes. The case was that of a baby which he found in a closed room, the child being covered with blankets, while the outside atmospheric temperature was 90° in the shade. He said that some kindly disposed old lady had suggested this sort of treatment as a remedy for "bold hives."

The session was most interesting and profitable, as well as enjoyable to all the members.

The subject for discussion at the next meeting will be a symposium on malaria, the principal paper to be prepared by Dr. G. H. Wallace, of Bertrand.

MEETING OF JULY 5TH.

The society met in the office of the president at Charleston, with the following members present: Dr. Albert Martin, of East Prairie; Drs. Chapman, Lynch, Reid and Howle, of Charleston.

The membership of Dr. R. P. Aldridge was favorably reported by the committee and he was duly elected a member.

The Symposium on Malaria was abandoned on account of the unavoidable absence of Dr. Wallace, who had agreed to prepare the prin-

cipal paper. This subject will be taken up at the August meeting, at which time Dr. Reid will also read a paper upon the subject.

Dr. Chapman reported a case of dysentery, in which the usual treatment had failed to check the progress of the disease and further study had suggested the possibility of a chronic lesion of the liver with probable gall stones. An operation was suggesetd but refused by the patient. A general discussion of the subject of dysentery followed the reading of the paper.

Dr. Reid read a paper on the subject of "Bismuth Paste Treatment of Fistula," and reported a case that recovered under this treatment.

Dr. A. Martin reported a case which had been pronounced by a number of physicians to be an abscess of the liver, but when operated upon proved to be a cancer of the stomach, involving the left lobe of the liver.

The next meeting will be held at Charleston the first Monday in August.—W. P. Howle, M. D., Secretary.

RALLS COUNTY MEDICAL SOCIETY.

The Ralls County Medical Society met in regular session, July 8, 1909, at Spalding Springs. Twenty-one physicians were present. Seven papers were read and discussed.

The meeting was a very interesting and instructive one.—T. J. Downing, M. D., Reporter.

RANDOLPH COUNTY MEDICAL SOCIETY.

The August meeting of the Randolph County Medical Society, which was purely clinical, was held at Moberly, August 26th, 1909. This meeting was even a greater success than the previous meeting, which we considered the best in our history, in that there was a better attendance and a more abundant supply of clinical material.

Following is the program of the meeting:

"Epileptoid Convulsions in a Case of Senile Arteriosclerosis, by Dr. F. L. McCormick, of Danksville. Discussion by Drs. Mabee and Lyter. "Gummatous Osteoperiostitis," by Dr. C. K. Dutton, of Moberly. Discussion by Drs. Barnhart and Dickerson. "A Tumorous Mass of the Intrascapular Region," by Dr. R. A. Woods, of Clark. Discussion by Drs. Ash, Dutton and Barnhart. "Mitral Insufficiency," by Dr. O. O. Ash, of Moberly. Discussion by Drs. Nichols and Barnhart. "Trifacial Neuralgia—Operated," by Dr. Thos. Irwin, of Moberly. Discussion by Dr. Nichols. The feature of this case was the absence of any paralysis following the operation, which was done two years ago. "Tongue-tie, Adenoids, Enlarged Turbinates and Chronically Enlarged Tonsils Existing in the Same Individual," by Dr. J. R. Mabee, of Huntsville. Discussed by Dr. Dutton. "Fractures of Humerus with Dislocation of the Head of the Radius," by Dr. D. M. Nichols, of Higbee. Discussion by Drs. Mangus and Mabee.

We will meet on September 30th, 1909, at Higbee, where we are promised a feast of clinical material and, following the clinic, a table groaning under the weight of a well-prepared supper at which our Higbee brethren will be the hosts. The Randolph Society is endeavoring

to convert itself into an institution of higher medical education.—J. C. Lyter, M. D., Secretary.

RAY COUNTY MEDICAL SOCIETY.

The Ray County Medical Society held its regular meeting at Richmond, August 15th.

After partaking of an excellent dinner at the Hotel Richmond, the regular meeting was called to order and the society was highly entertained by a very able and practical address on "Chronic Ulceration and Inflammation of the Duodenum," by Dr. J. M. Allen, of Liberty. Dr. Allen drew his conclusions on various points from a practical experience of fifty-five years as a physician, and cited numerous cases from his clinics in college work. He urged the medical profession to discard and forget the terms "stomach trouble" and "catarrh of the stomach." He said they were not definite and did not mean anything. Dr. Allen went into the etiology, pathology, symptomatology and treatment of this disease, talking nearly one and one-half hours in such a clear and concise manner that the time seemed all too short. Ray County always has a hearty welcome for Dr. Allen—the "Grand Old Man" of our medical profession.

Next on the program was a paper on "Spina Bifida," by Dr. J. M. Frankenburger, of Kansas City. Dr. Frankenburger said he had seen three cases of this unusual disease in the last three months, and presented three very fine and interesting photographs of a case he operated upon lately. The essayist handled his subject in a masterly manner, showing that he had given considerable time to its preparation. Dr. Frankenburger was requested to send his manuscript and illustrations to the secretary for publication in the Journal.

A motion was made and carried that a vote of thanks be extended to Drs. Allen and Frankenburger for their presence, to which Dr. Frankenburger responded in his usual graceful and charming manner.

The members present were: Drs. J. W. Smith, C. B. Shotwell, L. D. Greene, R. L. Hamilton, Robert Sevier, E. T. McGaugh, J. E. Ball and E. F. Hidgon, of Richmond; Drs. T. B. Cook and E. W. Rentfro, of Rayville; Dr. M. E. Crawford, of Camden, and Drs. J. H. Stapp and Hermon S. Major, of Hardin. Visiting physicians were: Dr. J. M. Frankenburger, Kansas City; Drs. C. C. Crowley and Wm. Byam, of Richmond; Dr. J. M. Allen, of Liberty.

The next meeting will be held in Richmond, October 20th.—Hermon S. Major, M. D., Secretary.

SCHUYLER COUNTY MEDICAL SOCIETY.

The Schuyler County Medical Society met in Lancaster, April 27th, Vice-president Dr. A. J. Drake presiding. Those present were: Drs. J. H. Keller, A. J. Drake, W. F. Mitchell and E. L. Mitchell.

Dr. Drake read a paper on "Constipation and Treatment," which was thoroughly discussed by all present.

Drs. Bridges, Keller and W. F. Mitchell were placed on the program for papers to be read at the next meeting, July 13, 1909.—H. E. Gerwig, M. D., Secretary.

SCOTT COUNTY MEDICAL SOCIETY.

The Scott County Medical Society met at Benton, July 5th, in the court-house, with the president, Dr. G. S. Cannon, in the chair. There were present: Drs. Haw, Wade, Wescoat, Atkisson, Cannon, Lucas, McCabe, Sparks, Frazer and Hutton.

Dr. Wescoat read a paper on "Cirrhosis of the Liver." The doctor demonstrated microscopically a normal liver, a cirrhotic liver and a pigmented liver.

The other papers read were: "The Physician as Hygiene Officer," by Dr. McCabe; "Appendicitis," by Dr. Cannon; "Colitis in the Infant," by Dr. T. F. Frazer. These papers were all good and were discussed freely by all present.

Dr. R. K. Ogilvie, of Blodgett, was elected a member of the society upon presentation of certificate from the Mississippi County Medical Society.—W. S. Hutton, M. D., Secretary.

SHELBY COUNTY MEDICAL SOCIETY.

The Shelby County Medical Society met at Clarence, May 15th. The chairman being absent, Dr. N. M. Read presided.

Dr. Bayliss sent a patient, a man 48 years old, with a growth in the parotid region, for examination. There was a diversity of opinion as to the character of the tumor, but the majority advised removal of the growth.

Dr. Wood read a paper on "Puerperal Eclampsia," with report of a case, which was discussed by all present.

The doctors of Clarence had prepared an excellent dinner for the visiting members, but owing to the inclement weather the attendance was small.

Dr. E. B. Stark, of Hager's Grove, was elected to membership.

Adjourned to meet in Clarence at the call of the president.—A. M. Wood, M. D., Reporter.

VERNON COUNTY MEDICAL SOCIETY.

The Vernon County Medical Society met in regular session at Nevada, June 3d, 1909.

Dr. E. A. Dulin read a paper on "Circumcision." The paper was of much interest from an historical standpoint, as well as being of practical value to the practitioner.

The subject of treatment of infantile diarrhœa elicited quite a thorough discussion.

The president, Dr. C. B. Davis, appointed a committee, consisting of Drs. I. W. Ammerman, Joe Yater and V. O. Williams, to find a suitable building in which to carry on a post-graduate course for the benefit of the members of the society, and in which to open a free clinic for the worthy poor throughout the county.

It was moved and seconded that the society adjourn until the next regular meeting, July 3d, 1909.—V. O. Williams, M. D., Secretary.

CORRESPONDENCE

To the Editor:

There is a movement on foot to establish an American Association of Clinical Research for the purpose, first, of ascertaining the present exact status of clinical medicine and surgery, and, secondly, of advancing clinical medicine and surgery, by the conjoined clinical method or any other method that will insure exact and abiding results.

Will you have the kindness to publish the accompanying open letter in the next or the earliest possible issue of your Journal?

The meeting is called for October 27 next, and your assistance in calling attention to this meeting sufficiently early will be highly appreciated as an effort to help the cause of scientific medicine and surgery.

With fraternal thanks for your courtesy, I am,

Yours very truly,

James Krauss,

Chairman Committee American Association of Clinical Research.

"A meeting of physicians and surgeons interested in Scientific Clinical Research is called for Wednesday, October 27, 1909, at John Ware Hall, Boston Medical Library, No. 8 Fenway, Boston, Massachusetts. The meeting will come to order at 10 a. m., and carry its sessions through Wednesday, and, if necessary, through Thursday and Friday.

The object of the meeting is:—

First, to establish an American Association of Clinical Research;

Secondly, to establish clinical research on an incontrovertible scientific basis in hospitals; and

Thirdly, to institute an American Journal of Clinical Research, in which the work of members of the American Association and of others doing clinical research work in a scientific manner shall be published.

You and your friends are herewith cordially invited to participate in this meeting and in the proposed movement of scientific clinical research.

This invitation is extended to all physicians and surgeons whose interest goes beyond the immediate case work of ordinary clinical societies; and it is hoped that the invitation will be accepted by all medical practitioners, irrespective of their present medical affiliations, who can appreciate the necessity for establishing on an incontrovertible scientific basis the certainties and limitations of the present practice of medicine and surgery before attempting to add to the already large and cumbersome field of medicine.

The American Association of Clinical Research is not intended to disturb the present medical affiliations of its members nor to interfere in the very least with the duties they owe and the privileges they enjoy by virtue of their affiliation with any existing national medical body.

The American Association of Clinical Research is to take cognizance of the fact that the clinic requires cold facts and conclusive methods, and

upon these fundamental requirements, the structure and the work of the American Association of Clinical Research are to be built.

It is of the utmost scientific importance to establish conclusively all that is at present true in medicine and surgery, and only upon such proved knowledge, to base any further advancement. The clinic deals with clinical entities and not, like the laboratories, with parts as entities. Therefore, clinical research differs, and must differ, from experimental laboratory researches. Clinical research must consider clinical entities, and when considering parts, it must consider them only as parts and not as wholes. All that subserves the object of obtaining and investigating clinical facts and principles belongs to clinical research and the laboratory is a part of the means of clinical research, but only a part.

The crux of the matter appears to be that experimental laboratory proof is not sufficient clinical proof. In order to advance in an irresistible line, clinical research must be based on a conclusive form or method of clinical proof. In experimental proof, we dislocate a part from a whole and attempt to prove the whole from the part, as though a dislocated part could always prove the whole. Or, we attempt to prove facts in one species by facts in another species, as though the two species were identical. For instance, the experiments made on animals to elucidate certain elements of fever bring out a fact of almost insurmountable difference between man and the lower animals, the fact that man has associated with the nakedness of his body a highly perfected power for regulating his temperature, a highly developed vasomotor system and a vast array of sweat glands, a characteristic complex of things which apparently no other species of animal life presents. Experiments made on animals to prove febrile or other clinical phenomena in man may be suggestive, but for obvious reasons cannot be conclusive. To prove observations in man, the observations must be made on man and not on animals. But observations on man even are not necessarily conclusive. Individual observations on man cannot be conclusive, because the same experience cannot be repeated, and when we prove by numbers, we compare similar but not identical experiences. Analogy is not conclusive proof. Identity alone is conclusive proof; but since, in medicine, identical experiences cannot be repeated, we must provide simultaneous identical experiences in order to have proof by identity. Clinical proof is conclusively established when all observations and experiments are made conjointly by at least two competent men, preferably of opposite ideas, at the same time. Conjoined critical observation and experiment, at the bedside and in the laboratory, as may be required, furnish simultaneous identical experiences, the proof proceeding on the principle that a whole can be proved only by the whole and not by dislocated parts.

These and other weighty questions await your assistance for a necessary solution. The benefit that will accrue, both to medicine in particular and to the medical profession and humanity at large in general, from a satisfactory establishment of scientific clinical research, can be easily surmised. Come prepared, yourself and your friends, to give to this matter your mature convictions and your personal assistance. Only from a critical interchange of critically acquired opinions, can we hope for clearness and for the clarification of the medical atmosphere now charged with confusion and indifference.

Your communication, indicating your interest and your expectation of being present at the meeting in Boston on October 27, next, is eagerly awaited, and on receipt of the expression of your interest, further developments will be communicated to you personally in due time.

Please address your communications at the earliest possible date directly to James Krauss, M. D., 419 Boylston Street, Boston, Massachusetts.

Yours fraternally,

James Krauss, M. D.,
Chairman Committee American Association Clinical Research."
419 Boylston Street, Boston.

A BOOSTING CLUB.

To the Editor:—Why not a "Booster Club," or "Praise Your Brother Club" in the American Medical Association, with no dues or other requirements except that each member pledge himself never to speak unkindly or in criticism of a brother physician to the laity, except that physician be also present. Let us renew our vows and wear buttons to show that we mean to keep them.

If such a condition could be brought about we would be held in much greater esteem by our patients and neighbors. Whenever a physician is condemned, maligned or criticized by another physician, the ill-will engendered in the minds of the laity is not against the one physician but the class—individuals are forgotten and the profession is remembered as a whole. If I tell everyone I meet that Dr. Pill is a rank physician; knows nothing of medicine, and will stoop to any mean practice, the laity soon forget that Dr. Pill is a "poor doctor" and retain the impression that we are all "poor doctors" ready to stoop to anything.

Let's stop it; raise the standard. Can we get together at St. Louis and organize a club?

Yours for "no knocking."

W. T. WOOTTON, M. D., Hot Springs, Ark.

The above from the *Journal A. M. A.,* of August 7th, 1909. Will you agitate such a scheme to the end that we may create a better general impression upon the laity, restore confidence in our profession and take away the foundation for so many pathies, religio-cures, etc.?

Very sincerely yours,

W. T. Wootton.

STATE BOARD QUESTIONS AT THE EXAMINATION FOR LICENSE TO PRACTICE MEDICINE, KANSAS CITY, MAY 17, 18, 19, 1909.

ANATOMY.

(1) Give gross and minute anatomy of liver.
(2) Describe minutely the urinary bladder.
(3) Give origin, ending, branches and relationship of ulnar artery.
(4) Describe the shoulder joint.
(5) Describe the femur.
(6) Name all structures divided in amputation of forearm, middle third.
(7) Name and describe the fifth pair of cranial nerves.
(8) Give nerve and blood supply of uterus.
(9) Describe Scarpa's triangle, giving contents.
(10) Describe the meninges of the brain.

BACTERIOLOGY.

(1) What are the conditions under which pathogenic micro-organisms enter the system and multiply.
(2) Describe in detail a method for staining the gonococcus.
(3) Describe a method of staining and the microscopic appearance of the streptococcus pyogenes aureus.
(4) What are toxins and what is meant by antitoxins, natural and cultivated?
(5) What is meant by immunity? Give two examples in which immunity is artificially produced as a preventive against disease.

CHEMISTRY.

(1) Discuss incompatibility of mixture containing lead acetate and zinc sulphate. Give chemical formula representing this mixture.
(2) How would you make and preserve a solution of argentic nitrate? Give its incompatibilities.
(3) Where is iodine found in the body and by what tests do you discover it?
(4) Give chemical formula for calcium phosphate, potassium permanganate, sodium sulphate and sodium bicarbonate.
(5) Give formula for manufacturing iodoform and salol.

GYNECOLOGY.

(1) Define anteversion and retroversion. Give causes and treatment.
(2) Define subinvolution. Give cause and treatment.
(3) Describe vaginitis, giving forms and treatment.
(4) Describe endometritis, giving causes and treatment.
(5) Give dangers of gonorrhœa in female. Give treatment.

HYGIENE.

(1) Give source of infection, period of incubation, duration of quarantine in smallpox, diphtheria and scarlet fever.
(2) Give etiology of cholera infantum. Give dietetic and prophylactic care of same in detail.
(3) Name four milk preservatives. Give method of testing for same.
(4) Name various methods for fumigation, giving comparative value of each and method of application.
(5) Discuss toxins and antitoxins.

JURISPRUDENCE.

(1) What is the difference between a blister from the application of heat to the living and upon the dead body?

(2) What are the tests by which you would determine that a child had lived at birth?

(3) What are the signs of suffocation?

(4) What are the indications in the genital tract and in the peritoneum from which the conclusion is justified that a woman had died from an abortion before the third month?

(5) What would be the post-mortem findings in a perforating gunshot wound on the left side in which the bullet had entered at the fifth intercostal space, four inches to the left of the median line of the sternum?

OBSTETRICS.

(1) Name and give function of organs of generation.

(2) Define placenta prævia, giving diagnosis, prognosis and treatment.

(3) Give signs of pregnancy at 3d month, at 5th month and at 7th month.

(4) Differentiate a multigravida from a primigravida.

(5) Give the mechanism of labor in L. O. A. presentation.

(6) Define puerperal eclampsia. Give treatment.

(7) Define puerperal septicemia. Give treatment.

(8) When should forceps be used? Give manner of application in L. O. A. position.

(9) Give mechanism of delivery in breech presentation.

(10) Diagnose knee-shoulder transverse presentations.

PATHOLOGY.

Give pathology in each of the following diseases:

(1) Posterior spinal sclerosis.

(2) Catarrhal gastritis. (Chronic.)

(3) Cirrhosis of liver.

(4) Scarlet fever.

(5) Give pathology in 1st and 2d stages of lobar pneumonia.

PHYSIOLOGY.

(1) Explain the heart sounds. What is meant by reduplication of the heart sounds?

(2) What is the influence of the respiratory movement and of variations of intrathoracic pressure upon the pulse?

(3) Where are the red blood corpuscles reproduced?

(4) Describe in detail the secretion of urine.

(5) Name the ductless glands, and give, as far as is known, the function of each.

(6) Name the ferments of digestion and give the action of each.

(7) Describe in detail the function of the mammary gland, and give the composition of human milk.

(8) What are the muscles of inspiration and what function does each one of them perform during the act of inspiration?

(9) What is meant by nerve impulse? Give the direction of nerve impulse and the effect of impulses upon the cell body.

(10) Describe the oviducts, and give their function.

PRACTICE.

Give etiology, symptoms and treatment of each of the following diseases:

(1) Dysentery—acute.
(2) Diabetes mellitus.
(3) Erysipelas.
(4) Catarrhal gastritis.
(5) How would you differentiate scarlet fever from measles?
(6) How would you diagnose dilation of the heart?
(7) How would you diagnose mitral regurgitation?
(8) What is Skoda's resonance? How elicited and where found?
(9) Give treatment of acute specific urethritis.
(10) Write a brief but comprehensive paper of not less than 200 words on cholera infantum.

SURGERY.

(1) Describe the symptoms of and give the treatment for acute arthritis of the knee joint.
(2) Describe in detail the treatment of an open comminuted fracture of the tibia and fibula.
(3) Differentiate between epiphyseal separation at the lower end of the femur and dislocation at the knee joint.
(4) Give in detail the physical symptoms and signs of a purulent effusion into the left pleural sac. Explain the reasons for their existence and give in detail the treatment which you would institute.
(5) Give the clinical symptoms of a carcinoma of the breast; describe the method of examination and give the reasons for the advice which you would give as to the course of treatment.
(6) Give the clinical symptoms produced by a rupture of the middle meningeal artery without an external wound. What is the treatment for this condition?
(7) Describe the symptoms of stone in the bladder in a child and give in detail the method of examination.
(8) Given a case of stab wound of the abdomen: Describe the examination which you would make, the reasons for making it and explain the significance of what you would find and the treatment you would institute.
(9) Differentiate carcinoma of the tongue and syphilis.
(10) Describe Pott's fracture and give in detail the treatment at the first dressing.

THERAPEUTICS.

(1) Give the physiological action, the therapeutic indication, and the dosage, of the various preparations of arsenic.
(2) Name the source and various pharmaceutical preparations, and the dosage, of calcium.
(3) Give the various preparations of cinchona, and indications for their use.
(4) Give the therapeutic effect, the dosage and the uses of heroin.
(5) Give the officinal preparations and therapeutic uses and dose of lobelia.
(6) Give the therapeutic indication for the use of the ordinary preparations, and doses, of nitroglycerine.
(7) Give the various officinal preparations of nux vomica, the indications for their use and the doses.
(8) Name the more important officinal iron preparations and dosage of same.
(9) Give the therapeutic indications for the use of salicylic acid and give the most commonly used preparations of the same.
(10) Give indication and use of poke root, and the officinal name.

BOOK REVIEWS

Orthopedic Surgery for Practitioners. By Henry Ling Taylor, New York: D. Appleton & Co.

A well-bound volume, with excellent typography, neatly illustrated —frontispiece, "The Stretch" of Rodin, and with a foreword from Strode,—"I will not follow where the path may lead, but I will go where there is no path, and I will leave a trail,"—makes indeed a brave combination that whets the thirst for a soul-slaking draught at the very fountain-spring of knowledge. There is but a single factor in this picture that tends to make one pause,—"Orthopedic Surgery *for Practitioners,*" for so voluminous is the quantity and so puerile the character of much of the current literature served *en réchauffé* to that long suffering wing of the body medical, that one is sorely tempted to discount in advance productions bearing such titles. Nor does a somewhat careful overhauling of this volume make for a divorcement from this attitude. Save, perchance, for a somewhat reckless use of technical phraseology, and the introduction of sundry novelties, such as "ichor pockets" (p. 39), for which originality is claimed, the striking but meretricious foreword, above mentioned, may not be said to have been fulfilled. It would almost seem, when the average author produces a work directed "to the general practitioner" or "for practitioners," that he permits himself to drift under the influence of a spell that compels him to "talk down" to his audience to such a degree that his observations forfeit the right to a rigid scientific scrutiny.

In this particular volume is admixed a pompous phraseology alternating with a usage of the vernacular quite characteristic of works of this type. Among numerous instances of the latter may be found—"skipping patella," "heel cord," "snapping knee," "clicking knee," "joint mice," "in ankle," "in knee," "hollow claw foot," etc.—nor does the occasional use of the parenthesis as "drop phalangette" (Stern) or "hump foot" (Bradford) diminish the unfortunate crudity.

It may be asked, in all seriousness, have we not yet arrived at a stage in our surgical knowledge and philologic equipment that will justify us in discarding words and phrases, whose only merit lies in the honesty of their homespun forebears?

Works of this character are a trifle too technical for the use of a high school class, and yet exhibit a scientific unevenness that causes them to be somewhat attenuated pabulum for the palate of even the long-suffering and much bepatted-on-the-back "general practitioner." It might be readily imagined that one would encounter, in the light of the above, an occasional striking statement clothed in an authoritative dogmatism. Such are present, but lest an extended list might provoke the thought of unduly severe criticism, the following may suffice: "Paralytic congenital club-foot is caused by a spina bifida" (p. 365).

Query 1. *Is it always so produced?*

Query 2. *Is it often so produced?*

Faulty as the book is, whether from the standpoint of verbal infelicities or lack of scientific clarity and accuracy, it is, as a whole, by no means devoid of merit. The experience of Taylor as teacher of post-graduate classes has doubtless so moulded his mind and style, that perchance, largely unconsciously, he imparts his thought in the "compressed tablet" fashion. There is much that will prove interesting reading, some

that will prove helpful; and the "general practitioner" may well be counted competent to find in the five hundred odd pages sundry well-rounded grains, appropriate for his occasional need. Our gravamen lies not with Taylor nor Taylor's book, but with the class of which this volume is a fair exponent—"neither flesh, fowl nor good red herring."

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700 Surgical Suggestions. Practical Brevities in Diagnosis and Treatment. By Walter M. Brickner, M. D., Editor-in-Chief, and Eli Moschowitz, M. D., and Harold M. Hays, M. D., Associate Editors American Journal of Surgery, New York. Third Series. Surgery Publishing Company, N. Y.

This excellent small work is indicated in scope by its title. The suggestions are grouped in such a manner as to render them easy of reference, and written in such a style as to make them easily remembered. Many suggestions on anesthesia, care of instruments, sutures and dressings are also included.

This little volume is well worthy a place in any doctor's library.

J. E. D.

Essentials of Medicine. By Charles Phillips Emerson, M. D. Publishers: J. B. Lippincott Co., Philadelphia and London.

This volume is true to its name and more than its distinguished author claims for it. It treats concisely a wide range of subjects. It is not elementary in the usual sense, but it furnishes an admirable foundation for a thorough study of the matter treated of. It is a profitable book, as well as pleasing reading, and it certainly supplies a long-felt need in the library of every doctor who wishes to be well informed.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Vol. XI., No. 2, June, 1909. Octavo, 317 pages, with 52 illustrations. Per annum, in four paper-bound volumes, containing 1,200 pages, $6.00, net; in cloth, $9.00, net. Lea & Febiger, Publishers, Philadelphia and New York.

The June issue of *Progressive Medicine* deals with subjects of exceptional importance. W. B. Coley's large experience in the whole field of hernia enables him to write with authority, and renders every line of his article useful and informing. Of especial interest is the section on hernia and undescended testicle. E. M. Foote writes on the broad subject of abdominal surgery, and adequately covers all the many recent advances. Hirschsprung's disease, which has latterly been attracting much attention, and the surgery of the pancreas, are handled in a manner deserving particular notice. For several years J. G. Clark's review of the cancer problem has been the most noteworthy contribution in English medical literature towards the ultimate solution of this great question. His present article is no exception. It alone and apart from all the valuable accompanying papers is well worth the year's subscription. Alfred Stengel has summarized progress in diseases of the blood and ductless glands in a most interesting manner. His section on diabetes mellitus, a subject much to the front just now, is full of value to the general medical reader. Edward Jackson closes with a review of the year's developments in ophthalmology.

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ORIGINAL ARTICLES

FRACTURES: GENERAL CONSIDERATIONS.*

By A. J. Campbell, M. D., Sedalia, Mo.

This subject being of such magnitude, I will, in this paper, endeavor to deal only with the more important practical points in general, with a few remarks concerning the treatment of fractures of the hip. A most important step in the treatment of fractures is that one shall have made a proper diagnosis of the condition which he is about to treat; to undertake the treatment without an adequate impression in one's mind of the bony lesion present, detracts greatly from the satisfaction in one's work and conduces to poor results on the one hand, or to unnecessary confinement of the patient on the other. So important is this, that if one is not able to satisfy himself as to the character of the injury by use of the ordinary means of examination, the two artificial diagnostic aids should be called on, and either general anesthesia or the *x*-ray employed.

The general employment of anesthesia in the examination and the initial treatment of fracture, especially when near or involving joints, has made diagnosis more accurate and treatment more intelligent. The application of the *x*-ray to the diagnosis of fractures, has already contributed much toward an accurate interpretation of the physical signs of fracture. This greater certainty in diagnosis has suggested more direct and simple methods of treatment; antisepsis has opened to operative surgery a very profitable field in the treatment of fractures. The final results after the open incision of closed fractures emphasize the fact that anesthesia, antisepsis and the *x*-ray are making the knowledge of fractures more exact and their treatment less complicated.

*Read in the Medical Section, Fifty-second Annual Meeting of the Missouri State Medical Association, Jefferson City, May, 1909.

In stating what help the *x*-ray has been in increasing our knowledge of pathology and treatment of fractures, we may mention first some of the general points and then the particular fractures in which we find it to be a benefit. While surgeons have always realized very nearly accurately the position of the misplaced fragments in a common fracture, there can be no doubt that the production of pictures of the exact condition in individual cases gives more reliable information of the condition and relation of the broken ends than can possibly be obtained by palpation. A more definite knowledge of the pathology brings greater exactness of treatment. When the splints are applied it can be ascertained whether the position is good without removing the bandages. Little details that otherwise would escape knowledge are brought out. The patient is spared painful manipulation, or etherization and the bruising and laceration of the tissues from unnecessary handling. The question of the cutting operation to reduce otherwise intractable fragments may be decided by an exact knowledge of the position of the parts. This subject of the advisability of interference by making a simple fracture compound, is one that is attracting much attention, and will lead to its being made the rule in cases where a good result cannot be expected by the simple method. When asepsis can be practiced, there is little danger from making an incision, and the time saved where the approximation of the fragments is prevented by loose bits of bone or soft parts, is well worth this slight risk. At present we find the *x*-ray more assistance in the study of the pathology of fractures than we do in their treatment. An exact diagnosis of fracture without skiagraphs is open to doubt, while with a careful *x*-ray examination there is seldom a doubt.

In general those bones that can be brought nearer the plate or that are not over-shadowed by other bones, give the most satisfactory skiagraph; therefore little can be expected of skiagraphs of the bones of the head or vertebra, while bones of extremities come out with precision. The pelvic and shoulder bones stand midway between these, but with a good apparatus and care in the choice of the relative position of the plate, tube, and particular portion of the bone to be taken, we can expect a definite picture. Fractures in the shoulder joint, are often impossible to recognize without the *x*-ray, particularly in those cases where the swelling and effusion about the joint prevent manipulation. Fractures of the tuberosities of the humerus, of the surgical and anatomical necks can be differentiated with certainty. When separation and dislocation of the epiphysis have occurred the question of operation may be decided and the same question may be answered in those cases in which fractures of the neck have occurred without dislocation. Even in breaks of the shaft of the humerus and the other long bones we gain much information. The extent, direction and plane of cleavage with the exact amount of displacement are guides for the application of padding and splints. It is in fractures of long bones particularly that a second series of the skiagraphs with the splints in position is of value. The amount of short-

ening is shown more accurately than by measuring the land-marks; for the overlapping can be distinctly seen. We should not fall into the error of thinking that because the subject of fractures is one of the oldest branches of surgery and deals with the commonest of surgical lesions, it has obtained to its ultimate perfection. There is no doubt that some of the newer branches of abdominal surgery are more nearly perfected than is that of fractures, which has occupied therapeutic ingenuity since ancient times.

The doctor does well to think of a fracture as a wound of bone, which in its treatment and healing is amendable to the same rules that govern the healing of wounds in other parts of the body. The more widely the wound surfaces are separated, the greater is the damage to the blood and lymph channels and nerves. The more mobility the greater will be the exudate and swelling. Conversely the sooner and more accurately the wound surfaces are brought together and retained in apposition, the less will be the swelling, and more perfect the healing. We have not only to think of the wounded bone, but of the structures which lie in relation to it. The muscles play an important role; but muscular resistance is often regarded as the obstacle to reduction when the trouble is due really to the interposition between the bone ends of fascia, of a bundle of muscle, of a clot, or periosteal tissue which the *x*-ray does not reveal. When manipulation does not force such fractures from their entanglements, a satisfactory result is best secured by operation. Unless operated upon such fractures are apt to give delayed union or non-union. The term non-union does not however necessarily imply that no union exists between the bone, but simply that bony union does not exist. In cases of so-called non-union, fibrous union is often present. In cases of non-union a wide separation and imperfect immobilization of the fragments are factors in the occurrence. Of the general causes it is thought that syphilis, pregnancy, prolonged lactation, the wasting diseases, rachitis, and the acute febrile diseases, may contribute somewhat toward non-union. The constitutional treatment of non-union is no doubt of considerable importance, together with a complete reduction and absolute immobilization of the fragments. If these measures fail after a fair trial, a rubbing of the end of the fractured bones together and then immobilizing is sometimes effective. If this fails, operative measures should be instituted for making the fracture an open one for the removal of interposed tissues. There is considerable mis-construction of this question of non-union. We are taught much about constitutional weakness, old age, and lack of earthy salts in the blood; but these, I believe, are of secondary importance to the local condition just narrated. Broken bone surfaces held in close apposition, bone to bone, will grow together just as they do in fractures of the skull. Swelling is also an important consideration. It is due to exudation from the wounded bone surfaces and from its surrounding soft tissues, which are injured by bone fragments or by loss of support. We may count it as

a pretty general rule that the swelling is in direct proportion to the amount of mobility. The exudate of the bone itself amounts to but little, most of it being from the damaged blood channels of the neighboring soft tissues. There is a prevalent notion of waiting until the traumatic reaction has subsided, but there is traumatic reaction going on as long as the bones are out of place, or so long as they are movable. There is also a practice of deferring serious treatment until the swelling has gone down, but if we can only effect an immobilization soon enough, the swelling will not be great. The swelling in fractures of the skull is inconsiderable, notwithtsanding that the total area of bone surface involved, is ordinarily more than in fractures of the leg or arm, and the vascularity greater.

The reason for this is the natural immobility of fractures of the skull. It would, of course, be unwise to consider the treatment of fractures of the skull apart from a more or less systematic review of traumatic lesion of the brain. In case of fracture of the skull the injury to the brain is of paramount importance. The immediate danger to the brain may be caused by direct pressure of bony fragments, by bruising of the brain itself, or by cerebral edema. Great interest attaches to serious head injuries, not only because the brain may be damaged, but more especially because the lesions are often obscured by an intact scalp. A proper determination of the condition existing after a fracture of the skull necessitates careful observation of symptoms combined with good judgment in interpreting the signs present.

The sooner a fracture is reduced, its bony surface brought into apposition and held immovable, the less will be the swelling and the more satisfactory the results. In a great many hospitals, however, when a fresh fracture of the leg is brought in, it is put up temporarily in a vast amount of cotton in such a way that the bones are not immobilized. Swelling is expected and the expectation is fulfilled. After the muscles, tendon-sheaths and nerves have been infiltrated with exudate for several days, the serum is sufficiently absorbed for the leg to be properly immobilized. The practice should be to correct deformity and permanently immobilize such fractures at once. When the fracture is seen within the first few hours (2 to 10) there is usually little swelling present. The limb should receive a thin cotton covering with plaster of Paris dressing, applied immediately over this. It does not require a heavy covering with the plaster bandage to immobilize the fracture. It is important that the bandage next the cotton dressing be applied without folds, and with the most possible evenness, no reverses being made. A thin cast being applied in this manner conforms to the shape and contour of the leg, and allows of a comparison with the other limb. A good plan is to cut through this cast on either side so as to divide it into an anterior and posterior half. This can be done before the last bandage is applied, and while the plaster is still soft, by using a sharp knife or bandage scissors. Then the final bandage is put on. Later when the

cast is hard, if it is desired to inspect the leg, it is an easy matter to cut through the outer bandage, following the underline mark and lift off the front half of the splint. Dr. James P. Warbasse, of Brooklyn, says this operation is facilitated by drawing two long white cotton stockings over the leg and applying the plaster of Paris dressing over this. At the first cast cutting operation, dividing the outer stocking, which is adherent to the cast, and leaving the under stocking intact. While putting up a fracture immediately after its occurrence may not usually be regarded as good surgery, I believe it is, if the cast is well put on. If it is smoothly applied, and the apposition is good, there will be no further swelling, provided there are no extraordinary conditions present, such as imperfect reduction, rupture of large vessels, or venous obstruction.

After such immobilization the leg should be almost free from pain. There should be little throbbing or discomfort; if there is, the chances are the reduction is not good, and such a splint should not be left on in presence of much pain.

Another matter to which attention may properly be called, is the manner of extension in the fracture of a thigh. In the ordinary fractures about the middle third of the femur the over-riding of the fragments is considerable, and there is often a lack of appreciation of the amount of force required to overcome the muscular contraction and bring down the fragments into place. Under the best conditions there is rarely a complete correction of the over-riding. Fortunately most fractures of the shaft of the femur are oblique, and the broken bone surfaces slide over one another longitudinally, causing but little lateral displacement. When the fracture is transverse, the over-riding, of course, produces lateral displacement equal to the diameter of the bone; often more or less soft tissue interposes and the injury becomes a more serious thing. In order to overcome these longitudinal displacements in a man, an extension which is more than the patient can tolerate is necessary. Authors of text-books usually give from 10 to 20 lbs., but this is hardly ever sufficient. If the fracture is oblique, 20 to 30 lbs. may nearly correct the over-riding. If it is transverse that amount will not bring the bone ends into apposition, even with the use of a general anesthetic. The time to apply this extension to accomplish results, is immediately after the accident, every hour adding to the infiltration with serum, blood and leucocytes, of the connective tissue, fascia, and muscle, about the fracture, and diminishing the elasticity of these tissues. What can be done by 20 lbs. of traction in the first few hours, cannot be done by twice that weight after the third or fourth day. Dr. Stepson's proposition to tire out the muscle by traction does not work here; instead of relaxing the tissue becomes more resistant; still some begin with a moderate amount of extension, then after a few days, measure the legs and finding shortening, add five lbs., continuing to repeat this until at the end of a week or so, they get up to the amount of extension, which if applied on the first day would have probably brought the bones in apposition, but

which by the time it is applied is insufficient. The time to put on the maximum extension, is at the very first—20 to 40 lbs., in a man, then at the end of a few days, this extension can be reduced. The *x*-ray has shown that an accurate replacement of fragments is rare; it is unfortunate that the public often expects the impossible. When we secure a perfect functional result, we should not forget that a perfect functional result is compatible with an imperfect piece of jointing. In most of the complete fractures of the long bones of the leg the apposition is probably far from correct. The open operation is the only method by which they can be made absolutely correct; this is not often necessary, as a restoration of function is the thing we aim at, and we should disabuse the public mind of the idea that this requires exact apposition. Here is found one of the values and dangers of the *x*-ray; valuable to the doctor, and the patient for the help it affords in showing the condition of the bones, dangerous—sometimes to the doctor, and the patient for its misleading effect on the mind of the patient. Some one has said, if doctors would display as much zeal in discussing their imperfect results as they do in presenting their triumphs, our literature would be richer, more practical and of more value, and the public would be less apt to expect the impossible in the treatment of fractures.

Concerning fractures of the neck of the femur; this accident most frequently occurs in elderly people, is ordinarily associated with a very slight injury such as a trip and fall upon the floor from a standing position; perhaps in many instances the fracture precedes the fall, it is often difficult to determine the exact seat of the lesion. Whether the fracture is within or without the capsule of the joint is of comparatively little importance, on the other hand whether the fracture is impacted or unimpacted is of the greatest importance; fractures of the base of the neck of the bone—that is fractures near the trochanter, are usually impacted; fractures of the neck toward the head of the bone, unimpacted. Impacted fractures unite readily, unimpacted fractures often remain ununited. A prolonged search for crepitus and abnormal mobility should not be attempted. Slight shortening with a little deformity, some limitation in the movements of the hip, a limp, but a fairly useful limb are to be hoped for. It has been demonstrated conclusively, that the old time method of treatment of fracture of the neck of the femur is not productive of satisfactory results, that is traction and immobilization for periods varying from a few weeks to a few months, then allowing the patient to go about on crutches, no other treatment being used. Fractures of the hip or the neck of the femur, demand the greatest tact in their management; the patient should be placed upon a comfortable firm hair mattress, underneath the mattress crossing the bedstead from side to side, should be placed several wooden slats a few inches apart, these slats prevent sagging of the mattress and much consequent discomfort.

Great caution must be exercised that no sudden or forcible movements of the hip are made which might break up the impaction of the bone or cause unnecessary pain. The leg should be placed in as natural a position in extension as possible, the knee should be placed upon a pillow; a weight of about five pounds should be applied to the extension with the leg gently rotated and carefully placed approximately in normal position; the foot of the bed should be elevated to the height of about six inches, in order to secure counter-extension. Long and heavy sand bags should be placed on each side of the leg and thigh, to assist the light extension in affording support and to give a sense of security. The foot should be kept at a right angle with the leg; the patient should be kept quiet in bed for two weeks. Ordinarily the extension may be removed in the third week, the patient may then be removed to another bed. In this change the thigh should be supported by sand bags. From this time and during the next six months quite a number of different treatments are advocated by different authorities. I will briefly relate a case which two days ago I had the opportunity of inspecting and measuring, and I consider the result very good.

September 13, 1906, a boy aged 17, small for his age, and of not very vigorous health, fell through a sky-light to the floor about 20 feet below, sustaining a complete fracture of the neck of the left femur. After treatment somewhat as above related, for four or five weeks, he was allowed upon crutches, his leg placed in a brace extending from the foot to the pelvis, which exerted continuous traction upon the leg, the brace being worn for about three months, after which time it was removed, and he was allowed to go about upon the leg. There is between three-fourths of an inch and an inch shortening, and of course a limp, which is, however, only slight. There is good motion in the hip joint and the limb never bothers him in the least. This modification of the ambulatory treatment I believe is conducive to good results.

The Frank ambulatory treatment of fractures, of which medical literature contains many references, has been in use for about ten years, but has not met with general approval even among hospital surgeons. It is a radical method open to many criticisms, and I should be afraid to use it. It contains several important suggestions, however, and might prove interesting to follow the adoption of the method by its advocates, and to prove if possible what there is in it of permanent value.

Operation upon ununited fractures. In operating upon cases of ununited fractures, the refreshening of the ends of the fragments is a necessary step in the technique. Meyer in a case of ununited fracture with three inches shortening made the Langenbeck incision for excision of the hip joint, exposed the seat of fracture, scraped the ends of the fragments until they bled, reduced the deformity by extension of the limb and fastened them together by driving two nails through the trochanter major. A useful joint was obtained with an inch and a half shortening of the limb. Parkhill commends this method for fracture of

the neck of the femur. Gillette reports three cases of ununited fracture of the neck of the femur operated upon by him; there was union and good motion obtained in all the cases, with shortening of from an inch to an inch and a half. Curtis, in a case of fracture of the neck of the femur of three months' standing reports good union and a useful limb with three-quarters of an inch shortening after operation. Freeman reports 15 cases with one death and 14 recoveries with good functional results in all. There is yet reasonable doubt regarding the advisability of this operation except in special cases. The difficulty in securing and maintaining proper adjustment of the fragments because of the lack of command of the inner portion, its porous character, and low vitality, present obstacles to success that cannot be denied. The degree of shortening that follows successful results suggests an initial failure of reduction of the deformity or the maintenance in proper place, and bespeaks in any event a considerable amount of absorption at the seat of the fracture. A more extended experience is needed and a careful comparison of the favorable results by different methods of treatment is required before a final judgment can be rendered. In fact the treatment of the fractures of the neck of the femur, is gradually undergoing a change which may prove to be a very radical one.

ANÆSTHESIA.*

By W. E. Leighton, M. D., St. Louis, Mo.

In the present paper I wish to discuss the subject of general anæsthesia, with special reference to a consideration of the responsibility of the anæsthetist to the patient, to the surgeon and to the law. The subject is one of the most important in the domain of surgery, and vitally concerns the surgeon, for it is the anæsthesia which makes possible today his brilliant results.

That the subject is one for serious consideration is attested by the abundance of literature and discussion appearing every few months in the medical journals throughout the country, and by the recognition of the value of the specialist in anæsthesia in our larger medical centers.

The relation of the anæesthetist to the patient is one of grave responsibility. To him the patient entrusts his life in the trying ordeal of being carried safely through an anæsthesia. Every means possible should be taken to inspire the patient's confidence. The attitude of the patient toward the anæsthetist is usually one of doubt. Too often the anæsthetist is seen for the first time when he appears in the room to administer the anæsthetic. He is an unknown quantity. The physician is well known. The surgeon is famous, but the anæsthetist, who is next in importance to the surgeon, has never been mentioned until he is ushered into the patient's presence on the morning of the operation. This is wrong. Not only is it unjust to the patient, but it is unkind to the anæsthetist. The confidence of the patient in the anæsthetist goes a long way in allaying the fears of the ordeal through which he is to pass, and the surgeon can accomplish this by giving the patient every assurance of his faith in the responsibility and skill of the anæsthetist.

Some surgeons adopt the plan of having the patient consult the anæsthetist in order that a thorough examination of the heart, lungs, mouth, and nose may be made, and the patient's confidence gained through his care and attention to details. In this way the status of the anæsthetist is established. It is not at all uncommon to hear the patient express his dread of the anæsthesia more than the operation. For this reason every means should be taken to allay his fear. To what extent does the surgeon allay this fear, and obviate the dangers of a poorly administered anæsthesia when he tells the patient not to worry that he will attend to all that, and then calls upon some unskilled practitioner, or medical student, or nurse, to give the anæsthetic? The patient may not

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realize the difference at that time, but let it become necessary to take a second anæsthesia, has the patient forgotten the experience? If a woman, she will recall the horrible sense of suffocation, and the dreadful sickness which followed it for days. How long will it be before she has told all her friends and neighbors about her experience? The result is that the laity believe it is a frightful thing to take an anæsthetic, and that a deathly sickness is the inevitable result, when as a matter of fact, the reverse is the actual condition when the anæsthesia is administered by an expert.

So important has this branch of medicine become that patients are beginning to realize the difference between skilled and unskilled anæsthesia, and it is not uncommon for the patient to demand the services of an expert anæsthetist, or even to postpone the operation until the specialist can be obtained.

The relation of the anæsthetist and surgeon should be one of utmost harmony. Each is working not for himself, but for the ultimate good of the patient. Their separate fields are entirely distinct. The surgeon cannot supervise the anæsthesia, neither can the anæsthetist direct the operation. As the judgment of the surgeon must be final in regard to the operation, so the judgment of the anæsthetist should be final in regard to the anæsthesia. Neither one can act as dictator. The anæsthetist is not an assistant to the surgeon, but is present in a capacity entirely apart from that of the surgeon, more that of a consultant, and the sooner such a relation is recognized the better the interest of the patient will be served. Hewitt has admirably stated the case in the remark "that it not unfrequently happens in the surgery of to-day that the rôle played by the anæsthetist is of even greater importance than that played by the operator, and the time has come for a clear recognition of these two distinct responsibilities."

The surgeon may have been a good anæsthetist at one time, but when he allows his attention to be diverted from the operation, by the presence of an incompetent anæsthetist whom he has volunteered to supervise, he detracts just so much from the patient's chances. His attention is divided and he cannot give his best care to the patient for his responsibility is divided and increased. Neither is his judgment good in regard to the anæsthesia, because only the man at the head of the table knows the true condition of the patient, and many patients' chances for life have been vitiated by this necessity of supervision on the part of the surgeon over the inexperienced anæsthetist.

This statement is not one bit overdrawn. I have seen a surgeon irritate an inexperienced anæsthetist into so overdosing his patient that the patient died on the table. On leaving the room the surgeon remarked that he had always regarded ether as a safe anæsthetic. Think of it, one of the most powerful drugs in the pharmacopeia a safe one in the hands of the inexperienced!

I have very little patience with the surgeon who belittles the anæsthetist, or says any one can give an anæsthetic, for I feel he has not a proper conception of the agent which contributes in no small measure to his success.

When a man says any nurse can give an anæsthetic, he is beyond argument. Only ridicule is proper, and I will try to answer him with his own logic. I know of a negro janitor in one of our large city laboratories who for years stained and examined all the "T. B." and "K. L" specimens and left them marked on the chief's desk for confirmation, the diagnosis was usually correct, but would the gentleman also advocate that negro janitors be appointed to fill such positions? They can be trained to do it and it would be a great saving to the city.

I have asked for your serious consideration of this important subject. In the language of one of our greatest anæsthetists, I ask, "Is there not just as great a scope for professional skill and judgment when the respiratory, the circulatory, and the nervous functions of a patient are being profoundly modified by a general anæsthetic as there is during enteric fever or some other ailment, for which the services of experienced physicians are generally regarded as essential? Yet it often happens, not only in hospital but in private practice, that the safety of a patient during the most critical hour of his life is entrusted to the mercies of one who has had little, if any, scientific training, and whose acquaintance with the powerful drug he is handling bears an inverse ratio to the self-confidence displayed in their administration. This state of things is open to much criticism, and should certainly be remedied."

Is it any wonder that our English brothers find cause for comment on the fact that here in America where ether was discovered we have few specialists in anæsthesia, and scarcely a hospital in the country has an anæsthetist on its staff?

Who is to blame for this deplorable condition? Is it not the lack of encouragement of the specialty on the part of the surgeon? Every surgeon tries to give his patient the best there is in surgery, why not procure for him the best he can in anæsthesia, since the success of operations in general is influenced in no small measure by the degree of skill and care on the part of the anæsthetist?

The relation of the anæsthetist to the law seems to be based more or less on the English law covering the subject. Anæsthetics may be administered for the purposes of relieving distress, or the pain incident to surgical operations. When given with other intentions, such as illegal operations, robbery, or rape, the adminisrator then becomes liable under the law.

To avoid the appearane of crime, a third person should always be present throughout the administration of an anæsthetic to a female, since the erotic dreams incident to anæsthesia, upon a female, has resulted in many false charges being brought.

Who, in the eyes of the law, is qualified to give an anæsthetic?

Buxton, of England, states: "At the present time some uncertainty exists upon this point, owing to the discretionary power being left to the operator to assume the so-called responsibility of the anæsthesia. Thus, nurses, medical students, servants, and various unqualified persons have been permitted to give the anæsthetic, or keep it going, while the surgeon, besides operating, is supposed to exercise a general supervision over the administration. Were an action for damages raised upon a death occurring under the above named circumstances, there is little doubt that the surgeon proceeded against would be heavily mulcted, since nothing short of the utmost emergency could justify the proceeding."

Hewitt draws similar conclusions as to the law. He believes that the law should protect the individuals who innocently submit themselves to the most powerful drugs in the pharmacopeia at the hands of those who are utterly ignorant of the risk involved, and the responsibility in administering an anæsthetic should rest with the administrator and not as has been held, with the operator. He believes that legislative acts should be required restricting the administration of anæsthetics, save in the most exceptional circumstances, to duly qualified medical practitioners, and separating the responsibility of the anæsthetist from those of the operator.

In this country, the responsibility of administering an anæsthetic is very similar to the English law. In Hamilton's Medical Jurisprudence the law is stated as follows: "An anæsthetic should not be administered without an assistant except under circumstances of emergency. When the operator is compelled to accept the services of a non-professional person, he must take the entire responsibility of the administration. When the assistant administering the anæsthetic is a regular qualified practitioner, the responsibility from the professional standpoint should be shared by both. If, however, the operating surgeon can be justly accused of selecting an anæsthetist who has not had sufficient experience to enable him to give the anæsthetic properly, and was so engaged in the operation as to be unable to personally supervise the administration, then in case of accident, he could be held liable under the general rule."

As the law now stands, the question resolves itself into the question of negligence in case of death from the anæsthetic. Was the surgeon careful in his selection of the anæsthetist, and if he chose the anæsthetic, did de select the proper drug? Was the anæsthetic a proper one for the case? Was it pure, and was it properly administered?

In view of the fact that to administer an anæsthetic with the minimum risk to the patient is all that a properly qualified and experienced man can attend to, and since, as I have pointed out, the surgeon can only properly give attention to his share of the operation, it would seem reasonable that he should be absolved from any responsibility pertaining to the anæsthetic, and the responsibility placed where it belongs, upon the anæsthetist.

SOME LATE EFFECTS OF CHLOROFORM.*

By William W. Stevens, M. D., Kansas City, Mo.

This paper is a review and condensation of the literature, and while my subject is "Some Late Effects of Chloroform," I am going to consider only the late effect of chloroform on the liver and the resulting hepatic syndrome and pathology. I will endeavor to present the practical side of the subject, avoiding as far as possible the theoretical and disputed points, giving facts that all investigators have agreed upon. The most valuable part of this paper is the bibliography which I append and which those of you who are interested will have an opportunity of seeing when the paper is published.

By whatever name you wish to designate it, the late effect of chloroform on the liver is a pathologic entity with its own symptom complex, and as such we have to recognize it. Those of us who use chloroform, either occasionally or as a routine anæsthetic, are liable at any time to be called upon to face this condition and when once recognized it is indeed terrifying. It is a subject of much importance and as yet it has not been satisfactorily solved, particularly as to its successful treatment.

In 1850, Caspar expressed the belief that chloroform might be followed by a state of chronic poisoning which might end in death. Langenbeck, during the same year, reported a death from the supposed delayed action of chloroform. Guthrie, in 1862, said it was no longer doubted that there is such a thing as chronic poisoning by chloroform, that is, that the patient may die hours, days or even weeks after regaining consciousness.

The cases of delayed chloroform poisoning, described in the literature, apparently tend to group themselves into two classes. In one, which affects chiefly children, the symptoms are those of acidemia or acetonuria without jaundice, and in these cases the changes in the liver are not so marked, consisting chiefly of fatty degeneration about the periphery of the liver lobules. Beesley reports 17 appendectomies done upon children at the Royal Hospital for Sick Children, Edinburgh, with 14 deaths all exhibiting marked symptoms of acetonemia, and the autopsies revealed the characteristic wide-spread fatty degeneration. The other type is observed chiefly in young adults, and clinically is marked by profound jaundice, cholemia and the usual syndrome of a rapidly fatal acute yel-

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low atrophy of the liver. Intermediate cases occur that do not fall distinctly into either of the two types. The predisposing causes are: youth, sex; alcoholic, mercurial, lead, carbolic acid and iodoform intoxication; homesickness, fright, change of food, intestinal fermentation, extensive fatty changes associated with infantile paralysis, starvation, sepsis, pregnancy; the presence in the body of a dead fœtus or a gangrenous mass; diabetes, carcinoma, anemic states from any cause, hemorrhage, infections with pus germs, diphtheria, chronic diseases involving both kidney and liver, such as cirrhosis and nephritis, fatty degeneration of the liver and prolonged or repeated anæsthesias.

There is a marked similarity in the symptoms exhibited in all of the reported cases. The patient usually makes what is apparently a good recovery from the anesthetic, and seems to be doing well. Suddenly the marked cerebral symptoms appear; he becomes anxious, irrational, restless with sudden and great fright, piercing crys, shrieks, grinding of the teeth, tossing and struggling, delirium followed by apathy, and then coma; irregular or dilated pupils, tremor, the sweet acetone odor is present in the breath, vomiting of "coffee ground" vomitus, absence of fever until just before death, then it may reach 104 degrees; jaundice of varying degrees, flushed face, air hunger as shown by deep breathing and bright red mucous membranes, Cheyne-Stokes respiration, cold extremities, weak, rapid pulse, collapse and then death.

The autopsies done upon patients dying with the above symptoms after chloroform, almost invariably show the same macroscopical and microscopical changes, which are: pale and faun-colored liver, fatty degeneration or infiltration of the liver, the various changes of nephritis in the kidney, fatty degeneration of the heart and fatty degeneration of the muscles of the lower limbs. The most important of these are those found in the liver—fatty degeneration and necrosis of the liver cells; autolytic disintegration of the necrotic cells and fatty degeneration of the cells which are not necrotic. The capillaries and blood vessels do not seem to be involved, there is no thrombosis, and no inflammation or proliferative action. This condition is essentially an hepatic toxemia and the other changes are secondary in importance to those in the liver. The toxins producing the definite symptom complex which always accompanies this condition, are liver toxins produced as a result of the fatty degeneration and necrosis of the liver cells, or the failure of these cells to eliminate substances which they normally eliminate, but which under these abnormal conditions accummulate and produce toxic effects. Wells says, "Chloroform is a violent protoplasmic poison, and if it were to inhibit or destroy the oxydizing enzymes of the liver cells, the results would probably be the same as those characteristic of chloroform necrosis; hence it seems probable that chloroform produces its effects by acting on the oxydizing enzymes, without corresponding inhibition of the autolytic enzymes and lipase of the cell." I would like to ask is it not possible that here we have a condition similar to that in uremia? That is, is it

not possible that parts of these necrotic cells might gain entrance to the general circulation producing antibodies like the nephro-lysins in uremia?

Up to the present time the treatment of this condition has been extremely unsatisfactory, and the best treatment is entirely preventive; by avoiding prolonged or repeated anæsthesias (as these have always produced these changes in guinea pigs) and by preventing any excessive loss of blood; by substituting ether for chloroform in the presence of diabetes, sepsis, starvation (on account of the susceptibility to the acetone syndrome), fatty degeneration of all kinds and especially that of the liver and infantile paralysis; acute acetonuria, any liver lesion, intoxications from dead or gangrenous tissue; by using ether instead of chloroform for children for these little ones are far more susceptible than adults, and by always giving chloroform in combination with oxygen.

The previous administration of alkalies has been recommended when for any reason this condition is feared. But this treatment has not come up to expectation. Wilbur has proven that the pathological effects of acidosis are not wholly due to the withdrawal of alkali from the blood and most investigators are agreed that acetone, etc., are by-products and their symptomatology must be regarded as secondary to the hepatic. Beesley makes the point that these symptoms are not due to the formation of acetone but to the failure to excrete it. Hunter thinks that if instead of enforced abstention from food, the patient were given a very nutritious and easily digested meal, well sweetened, two or three hours before operation, that this condition would be entirely prevented. In the presence of the attack opinions differ; some recommend the exhibition of glucose; others, sodium bicarbonate. It seems to me that by promoting elimination through all of the avenues of excretion, stimulating the patient with normal saline solution to which adrenalin has been added, and the continuous or almost continuous administration of oxygen, we have done about all that can be done. Holt has proven that pure oxygen is a direct antidote to protoplasmic poisons and Offergeld found that chloroform, when given in combination with oxygen, did produce degenerative changes, but only to a limited degree and that regeneration began in a few days.

The prognosis is always unfavorable, the severe cases invariably ending in death, while some of the milder ones recover.

I wish to report a case which occurred in my practice some eight or nine years ago, back in the old chloroform days. The patient, a woman about thirty-five years old, was operated upon for some repair work on an old colotomy. She was a morphine habitue and chloroform was the anæsthetic used. About 12 hours after regaining consciousness, she became irrational, shrieking and crying out in violent delirium; her expression was one of intense fear; she became jaundiced and vomited coffee ground material; apathy followed by coma and then death within a few days. There was no autopsy, but looking back on the case it seems to me to be a typical case of late chloroform poisoning.

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A STUDY OF THE ACTION OF SCOPOLAMINE-MORPHINE ON THE HEART, LIVER AND KIDNEYS. REPORT OF SIX HUNDRED AND FIFTY CASES OF SCOPOLAMINE-MORPHINE ADMINISTERED AS A PRELIMINARY TO GENERAL ANESTHESIA.*

By C. M. Nicholson, M. D., St. Louis.

A study of the results of the experiments shows:

1. The effects of the injection of scopolamine and morphine into animals is similar to that of morphine when given alone, with the exception of the injection into kittens, in which excitement instead of sleep was produced.

2. Continued, repeated daily injections produce no degeneration of the heart, liver or kidneys, the physical condition is not impaired so long as injections are given at such intervals as not to interfere with the animal's nutrition. Daily injections of from one to three times the dose given to patients produces no pathologic changes in animals.

3. The toxic dose of scopolamine and morphine in my experiments correspond very closely to that of morphine alone for the animals used.

4. The autopsy findings on animals which succumb to a toxic dose are the same as those from morphine, *i. e.*, congestion of the viscera.

5. My animals seem to acquire a tolerance for the drug on long continued daily administrations.

The cause of death in patients who have died after operation and who were previously given scopolamine, has been more readily explained as due to great loss of blood during or before operation, to sepsis or to shock. They have been desperate cases and in not a single case could scopolamine be said to have produced death.

Scopolamine by itself is very slightly toxic for animals and certainly does not produce any degeneration of the heart, liver or kidneys.

I have injected scopolamine 1-100, morphine gr. ¼, three-quarters of an hour before administration of ether as a preliminary to general anesthesia in six hundred and fifty cases, and in this series the extremes of life had been avoided. In six per cent. of cases there has followed practically no results, but in the remaining ninety-four per cent. I have noted a quiet state of the nervous system previous to operation, that there has rarely been an instance in which the patient became excited or struggled during the administration of the anesthetic, the absence of mucus in the patient's throat, a lessening of fifty per cent. of the amount of ether used, the existence of quiet for some hours following operation, and the absence of post-operative vomiting.

DISCUSSION.

Dr. Walter B. Dorsett, St. Louis: I do not know of any subject I have been more interested in than anesthesia. We ought to pay more attention to this subject, and that anesthetists ought not to be classed as assistants, but as consultants, as suggested by Dr. Leighton. So impressed am I with this fact that I do not ask a medical student to give an anesthetic, nor do I believe medical students, as medical students, should be entrusted with anesthesia. Unless the man has had a special training, he ought not to think of taking the responsibility, nor should the surgeon, and I endorse the sentiments of Dr. Leighton in that regard. I have not had patients die from the remote effects of anesthesia, so far as I know. Outside of a jaundice that sometimes occurs in women, I know nothing about it.

For fear that some of the audience may be imbued with the sentiments expressed by Dr. Nicholson, of the innocence of scopolamine and morphine, I want to relate two cases of death in children from the injection in the mother of the H. M. C. tablet. Now, this tablet is, I believe, essentially a scopolamine-morphine preparation. I believe it has been proven that the cactine is a neutral substance. Two years ago I was expected to officiate at the delivery of a woman, a primipara. I was called out of the city and while away she was taken in labor and sent for a general practitioner, but a good obstetrician. When I returned, I found that the child was born dead. I was asked to consult with him. In the consultation room, he said that when he saw her, the pains were not very pronounced and he gave her an H. M. C. tablet. He then left to make some calls and came back in about three hours, and gave her another tablet, then went home to dinner. He came back, gave her a half of an H. M. C. tablet, made a few calls, and came back at ten o'clock, when the baby was born, and he had to use the forceps. There was no trouble in the delivery, but the baby was dead and cynotic. He said he did not know what caused the death of the baby. Two other cases which I will not relate in detail, were along the same line. Having been impressed by an article in the *Journal of the American Medical Association,* in which it was stated that babies had been born dead after the use of the H. M. C. tablet in obstetric practice, I am convinced that many practitioners are using this tablet, and I believe some of you could relate similar experiences. I am pretty positive it is injurious to the unborn child when used hypodermically on the mother during parturition.

Dr. C. H. Wallace, St. Joseph: Referring to Dr. Nicholson's paper, I would say that I have had some experience along the same line. After graduation, in my early practice, I was an interne in a State Hospital for the Insane. At that time hyoscin was used in quieting many patients. I used it very extensively, and I learned to have the most profound respect for this remedy. I have gone in and given the most maniacal patient a 1-50th to 1-100th grain of hyoscin, and in five, ten or fifteen minutes the man's muscular system would be paralyzed, and he would be unable

to move, sit up, or talk, and his respiratory system would be so paralyzed that breathing was scarcely perceptible. Upon two occasions where this drug was given and the patient left alone in the room—upon return of attendant the patient was found dead. I think it is a most dangerous drug.

The tablet mentioned by Dr. Dorsett is responsible for many deaths. I believe that in the case of a woman in labor, if you prolong the use of these tablets you could prolong the labor indefinitely. I know from personal experience that hyoscin is one of the most dangerous drugs that we have. If it is uncertain in its effect when used upon conscious patients where it can be watched, how much more hazardous must it be when used in combination with an anesthetic.

Dr. M. G. Sellig, St. Louis: Dr. Lutz has by inference attacked the position taken by Dr. Dorsett that only a specialist should administer an anesthetic. I take it that what Dr. Dorsett desired to bring out was that students should not assume the responsibility alone of giving their first administrations, but that their first administrations of an anesthetic should be given under the guidance of a skilled anesthetist. That brings up the point of the tendency in hospitals of giving over the administration of anesthetics to the nurses. Physicians are urging it on the ground that they have no large scope in life, and that they would rest content to give anesthesia all the rest of their lives. To-day we have chloroform, ether, somniform, spinal anesthesia, etc., all of which are good in their places, and are to be used to meet certain definite indications as manifested by the condition of the patient. A nurse can never be in position to know and understand these things until she has graduated from a nurse into the sphere of a physician. In the giving of anesthesia, the important question is: "Has the doctor fulfilled his duty to his patient?"

Regarding scopolamine, it was my privilege to publish the first paper that was published in this country on that subject. I was chagrined by reports just like Dr. Dorsett has given, and on the basis of these reports I quit using it. The effects do not seem to be constant, and I was unable to get any definite opinion from Parke-Davis & Co. as to the cause of this. I never knew why this was until I saw a report by Cushney to the effect that there is one type of scopolamine which in the polariscope rotate the beam of light to the right, and another type which rotates to the left. One of these types has a depressing effect on the cardiac and respiratory mechanisms. It seems to me that it is unfair to your patient to use a drug that is so frail and unstable in its effects that it depends upon the direction of rotation. I have been absolutely unable to get any guarantee from the drug houses, and I have ceased to use it.

Dr. Block, Kansas City: The first two papers read on this subject certainly meet with my approval in a general way. It is true, as Dr. Lutz has pointed out, that somebody must learn to do this work, and all of us must have a beginning in the vocation we undertake. That is no excuse, however, for the inefficient, unprepared person undertaking to do this work right along. Emergencies permit us to take responsibilities

that we should not assume regularly. I feel more certain of my results when the anesthetic is in the hands of a person qualified to administer it.

In reference to the paper by Dr. Nicholson, it has one commendable quality we must all admit, and that is, a painstaking effort trying to learn the lethal effect of these drugs. It occurred to me that this is a very old story. We are familiar with the effect of opiates on animals, that they can be given in enormous doses without lethal effects, and it is difficult to draw conclusions from these results as to their effects on man. If he could perform a series of experiments upon a group of men who would submit to them, a sort of a poison squad, I think he would find that they are dangerous.

It is his general practice to administer hyoscine-morphine prior to administering a general anesthetic. I prefer to give a small dose of morphine, because I get better results.

I wish to put on record another case of disaster where H. M. C. tablets were administered. A certain homeopath administered three doses for a very small operation—removal of adenoids. This was the only anesthetic. The patient laid in a stupor for a week, and has not yet entirely recovered, although nearly six months have elapsed since the drug was administered.

Dr. Punton, Kansas City: I want to emphasize the point of the relationship of the anesthetist to the patient. Not being a surgeon or professional anesthetist, but having had many cases that I have referred to the surgeon, and watching the effects of the anesthetic at the time and after the operation, I am thoroughly convinced that he is correct when the essayist advises that we make known to the patient who is to administer the anesthetic, as well as who is to perform the operation. From a lay standpoint I think this appeals to the public generally. I can conceive how difficult it is in the country districts, where the physician has to accept the services of inexperienced persons, being removed from the centers where such specialists are to be found, but there is no excuse for such methods in the cities. Ten years ago there were no professional anesthetists, but it is different to-day. Dr. Bennet is now the leading anesthetist in New York City. I have just returned from New York, and there are men there who devote their entire time and attention to that one subject. The surgeons of the most recognized ability are now most particular in the selection of their anesthetists. Some years ago there was an article in the *Medical Record* calling attention to the fact that there was not then in the entire State and City of New York a single man devoting his entire time to this work. I called Dr. Bennett's attention to it, and told him that there was his opportunity, and he went there, and is now recognized as the leading anesthetist in New York City. I claim that Kansas City has some credit in introducing anesthesia as a specialty. I wish to state that this is a greatly neglected specialty. There is a disposition among a certain class of surgeons to

ignore, to a very large extent, the importance of it. That tendency, however, should be condemned.

Dr. Gordon A. Beedle, Kansas City: I wish to say that there is the highest appreciation on the part of the surgeon with reference to the anesthetist at the present day. We have advanced beyond the stage where we deluged a patient with the drug, to where more consideration is given. With reference to the advance in anesthesia, I think the essential point to be considered before anesthesia will ever give absolute satisfaction, is the efforts that are being made to judge the exact amount of the drug to be given. Efforts along this line are being made by several anesthetists in the United States to-day, and some of them are getting fine results. There is no reason why we should not be just as accurate in knowledge of the amount of the drug we are administering to the patient as we are in the use of any other drug. I believe on that point depends the greatest success in the use of anesthesia.

Dr. Herman E. Pearse, Kansas City: In speaking to the paper by Dr. Stevens, I hope that next year he will write another paper on "The Late Effects of Chloroform Anesthesia." My attention was recently called to a case of chloroform poisoning, where it had been administered for anesthesia. I have had cases called to my attention of attempted suicide by drinking it. The symptoms preceding death were those called to our attention by Dr. Stevens, and were similar to the mild types of sepsis that we find after abdominal operations. I believe further investigation along this line will establish the fact that many of the deaths due to sepsis have in fact been due to the effect of chloroform on the liver.

Dr. Stevens, in closing: In this closing discussion I would like to say a few words on Dr. Leighton's paper. It filled me with joy to hear an anesthetist who had nerve enough to get up in this body and tell the truth in regard to anesthesia. It is only through the surgeon that anesthesia is going to be elevated to the position it should occupy. There is need of a diagnosis by the anesthetist as well as by the surgeon. Not only should you select the anesthetic that you deem best, but you should give it according to the best method, also you should consider the question of whether the patient should receive a preliminary injection, and if so, what drug, and in what doses. All through the anesthesia the anesthetist has to make a thousand and one diagnoses that come up, and judge from seemingly trivial symptoms what is going to follow.

In regard to Dr. Nicholson's paper, there is one point that I think has been overlooked. I think the use of scopolamine-morphine is very dangerous when used by one not accustomed to the use of anesthetics; for these patients are very much more sensitive to ether than those who have not had scopolamine-morphine. I know personally of three ether cases where fifteen to thirty minutes after the operation the respiration ceased and artificial respiration had to be kept up for from one-half to one hour. Dr. Lutz asks what we consider best for the general practitioner.

I would say for them to forget that there is such a thing as chloroform and use drop ether, which will do less harm and cause less trouble than chloroform.

In regard to my own paper I have nothing further to add, except to say I wanted to present as briefly as possible the scientific facts that have been worked out by men who have made a very thorough study of this subject.

Dr. Nicholson, in closing: The discussions have been limited to other than the proposition set forth by me. I have used scopolamine in conjunction with morphine, not to produce anesthesia, but as a preliminary to ether anesthesia. I fully agree with Dr. Wallace that it is a dangerous drug. The same may be said of strychnine and morphine and most of the other valuable alkaloids. Dr. Campbell seems to have considerable experience with scopolamine. However he has made use of three times the amount advocated by me. Whitaker, so far as I know, is one of the few men who have thus far made an original investigation of the action of scopolamine. In more than six hundred cases where scopolamine-morphine was used, my anesthesist, who is a most capable man, used less than one-half as much ether as when scopolamine-morphine was not given. It quiets the patient prior to operation, diminishes the amount of anesthetic by one-half and overcomes post-operative vomiting.

OCULAR DISEASES DUE TO SYSTEMIC INFLUENCES.*

By W. H. Minton, M. D., of St. Joseph, Mo.

To consider diseases of the eye as a unit, separate and apart from systemic influences, would, many times, be a source of error in the diagnosis and treatment of ocular affections.

That there exists a close and intimate relation between the body and the eye, as its appendage, cannot be too strongly emphasized. The connection is formed by a double link, or union, one part of which is composed of central, sympathetic, and special nerve tissue; the other, a vascular union, through which the eye receives its nutrition. These two systems place the eye in an exceedingly close proximity to the whole organism, of which it is a part, making it impossible for the one to perform normal functions, independently of the other. Therefore disease of either of these connecting media, frequently produces changes and abnormal functions in the eye, when the original lesion may be quite remote from its ocular manifestation.

These facts are generally recognized to-day by the medical profession, and as a result, we see the coöperation of the oculist and the internist, and more efficient work being done in their respective fields.

By way of illustration, there can be cited no better example other than lesions located in the kidney. Every physician called upon to diagnose and treat the various kidney affections, in which albuminuric urine is found, is frequently led to make a urinalysis through ocular disturbances, since from 10 to 15 per cent. of the various kidney affections are associated with ocular changes. A patient complaining of gradual loss of vision, headaches, puffiness of the lower lids, etc., at once suggests to our minds an ophthalmic picture, a description of which would be the characteristic star-shaped figures, ill-defined nerve, head and retinal hemorrhages, thus constituting a group of symptoms very indicative of renal disease. The diagnosis may be easily confirmed by subjecting the urine to the nitric acid, or boiling test. Hemorrhage in the retina, is an important symptom, as it denotes a general circulatory disease, which usually has a fatal termination, within six months or a year.

Albuminuria of pregnancy is one exception that may be mentioned, as regards life and vision. If the albumin does not make its appearance until about the last two months of pregnancy, the prognosis is more favorable, as the vision is generally recovered after the kidneys have resumed their normal functions.

*Read in the Eye, Ear, Nose and Throat Section, Fifty-second Annual Meeting, Missouri State Medical Association, Jefferson City, May, 1909.

Another disease which is characterized by affecting connective and nervous tissue, and blood vessels, thereby revealing itself in the eye, is syphilis. Almost every structure of the eye is subject to its ravages, but the choroid or vascular tunic, and the retina, are probably the most often attacked, as syphilis shows a predilection for the circulatory and nervous systems. In the vessel there is produced an inflammatory condition, with a resulting proliferation of endothelium, and a subsequent sclerosis. As morbid changes are taking place in the choroid, there is pigment migration occurring in the retina, principally along the course of the vessels, and finally both choroid and retina have undergone pathological changes, eventually resulting in atrophy and degeneration. The ophthalmic picture of a syphilitic fundus will depend largely upon the structures affected and the stage to which the inflammation may have developed. In the early stages, the retina and optic nerve are infiltrated by inflammatory products, the blood vessels tortuous and partially concealed by exudations. Isolated white patches appear, free from blood vessels, with ill-defined outlines, and not infrequently, dust-like opacities are seen in the vitreous. The iris is occasionally attacked by syphilis and the exudation is very profuse; although the accompanying pain is not nearly so severe as in rheumatic type.

Among the early and improtant systems of tabes, may be mentioned the ocular phemomena, which are of great diagnostic value. Generally speaking, the symptoms of the tabes form a tripod, composed of incoördination, loss of tendon reflex, and the Argyll-Robertson pupil, the latter condition often antedating all the other symptoms. Simple and progressive nerve atrophy are occasionally met with in tabes, and not infrequently lead to complete blindness. Simple atrophy in the absence of all other nerve symptoms, is very suggestive of this disease. Along with the Argyll-Robertson pupil and optic nerve atrophy, it is extremely common to find ocular palsies, involving the third, fourth, and sixth nerves; however the paralysis is, as a rule, not permanent, lasting only a few days or weeks. Ptosis, or dropping of the upper lid, is one of the most common forms and generally due to nuclear lesions.

The nutritional disease, known as diabetes, in which the pathology is probably located in the pancreas, is often complicated by pronounced alterations in the eye structures. The glucose and other toxic substances in the blood affects the entire vascular supply to the eye, and as a result we have extensive retinal hemorrhages, retro-bulbar neuritis, optic nerve atrophy and what is commonly known as diabetic cataract. Fundus changes, resulting from diabetes, are occasionally difficult of differentation from those met with in nephritis, and urinalysis is necessary to confirm a diagnosis.

Migraine, or sick headache, from its three groups of symptoms, as in tabes, may be likened to a tripod, having ocular disturbances as one prominent feature. The visual aura of migraine is usually characteristic, such as scintillating lines, zigzag, or whirling figures, or sectors of the

visual field entirely obscured, producing temporary blindness in that particular field. The pathology of migraine is not well understood, and all the symptoms are mainly subjective, with very faint fundus changes during the height of the attack. Errors of refraction play an exceedingly minor part in the production of this disease; however, many cases are benefited and the attacks lessened in severity by correcting refractive errors.

In cerebral and spinal meningitis, the eye symptoms are not constant and depend largely upon the seat and form of inflammation. The cerebrospinal form, is often complicated with plastic choroiditis, and the tuberculous form is occasionally followed by post-neuritic atrophy. Any variety of meningitis may be complicated by ocular palsies.

Brain tumors are of special interest only from a surgical view, and reveal themselves in a variety of ways. Tumors developing within the cranial cavity, producing symptoms of intracranial pressure, often manifest themselves in the eye, and the eye symptoms frequently give some clew as to the locality of the cerebral growth. Optic neuritis and muscular palsies are the principal signs of intracranial pressure. Resulting from the pressure and irritation, produced by the neoplasm, we have different groups of muscles affected, and by continuity of tissue a resulting optic neuritis. The so-called "choked disk" may complicate hemorrhagic anemia, diabetes or albuminuria, but its presence is most indicative of brain tumor, and is a great diagnostic factor.

There remains one other constitutional disease, well marked by ophthalmic symptoms, which is known as Graves' disease, or exophthalmic goiter, the pathology of which is generally conceded to be due to an excessive functional activity of the thyroid gland. The eye symptoms, within themselves, are sufficient to warrant a diagnosis. The protruding eye, enlarged palpebral fissure, Graefe's sign or a lagging behind of the upper lid in downward movement of vision, and a venous bruit which may be heard by placing a stethescope over the closed lid, constitute the principal ophthalmic symptoms of Graves' disease.

The chronic inflammatory and degenerative disease of the vascular system, known as arteriosclerosis, not infrequently calls our attention to the eye.

The changes occurring in the retina are mainly an overgrowth of connective tissue and degeneration of the vessel wall, affecting all three coats, especially the intima, giving the vessel a thickened and rigid appearance.

Too many times the disease is brought to our notice by extensive retinal hemorrhages, producing partial or complete blindness, depending upon the extensiveness and location of the hemorrhage.

It is hardly necessary to say that there may exist a similar condition in the cerebral vessels, therefore we readily see the great importance of recognizing arteriosclerosis at an early date, in order to exercise the

greatest of care in preventing the development of the graver phases of this disease.

In reviewing the diseases of the eye, due to systemic influences, we have been compelled to omit the less important, and those touched upon have been necessarily briefly considered, but a review of them in connection with their ocular manifestations, establishes two facts; first, that properly to diagnose and treat disease of the eye, systemic influences must be reckoned with; and, secondly, that ocular disturbances may, many times, be the source of discovering an unsuspected systemic disease.

DISCUSSION.

Dr. John Green, Jr., regarded the paper as timely and indicative of the most recent tendencies in ophthalmology. In the earlier days of ophthalmology it was customary to look upon the eye as an isolated organ, uninfluenced by the general organism. Of recent years it has been the fashion to exaggerate the importance of the eye as a factor in the production of morbid conditions in various parts of the body. It is only within the last decade that ophthalmologists have begun to realize that a survey of the entire medical horizon is indispensable to a comprehensive knowledge of diseases of the eye.

Dr. F. C. Ewing, St. Louis, said specialists should bear in mind systemic conditions, such as diabetes, tabes, etc. He believed specialists should first have been general practitioners.

Dr. A. E. Derwent, Clinton, believed that no man should be a specialist until he had been in general practice for at least five years. He need then never fear that the surgeon would take his operative cases away from him, for he should be better prepared to care for them than the general surgeon.

Dr. J. D. Pifer, Joplin, said ptosis was usually due to local conditions, unless complicated with other pareses when it is nuclear.

Dr. Minton, in closing, stated that he had spoken of ptosis only in connection with brain tumors, in which case it was, of course, a nuclear affection; locally, it is usually due to trachoma or trauma.

MEDICAL JURISPRUDENCE.*

By W. R. Littell, LL.B., Tarkio, Mo.

Medical jurisprudence is that branch of the law which necessitates medical evidence, as a means of justice, in the trial of a case at law.

This branch of the practice of law has been added to as the science of medicine has progressed, until at present it forms a very respectable division of the law.

In the early days of the human family, when men held what they could by superior force, the question of law or of medical jurisprudence did not enter into the calculations of the legislators of the time.

As order came out of the chaos and the strong were compelled to recognize the rights of the weak, both the legal and medical systems grew in numbers, in wealth of discovered fact, and in usefulness. The legal system grew the more rapidly because it had to do with the acts of men in relation with each other, and was chrystalized out of the ever increasing struggle between the weak and the strong, financially, in the governments of the earth. Law is a rule of action, and none could fail to understand it so if once established by proper authority. The Christ so taught, and Moses, the divine founder and promulgator of the moral law so teaches. All equity writers, since the time of Moses, have followed his precepts, and have added to them as new conditions arose among men calling for a new rule of action. The Mosaic law stands to-day as the foundation of the equity jurisprudence of every civilized nation of the earth. New conditions have added to it, but all the old landmarks stand.

The science of medicine grew more slowly, from its very nature. Any of the ancients could understand the nature of an assault and see the necessity of a law to prevent or punish it. None of them could diagnose a case of appendicitis, for the simple reason that it was beyond the experience of men at the time. Witchery, sorcery, the black art, and other fetishes of the early days were the awakenings of the medical minds among men, looking toward an improved state in the treatment of disease.

Æsculapius, the founder of the noble art of medicine and surgery, deserves a place among the greatest men the earth has produced. The systems of law and medicine grew side by side and waxed strong as the peoples of the earth grew. From meager beginnings they waxed stronger and began to overlap each other, and curiously too, the systems first began to overlap each other on the questions of property rights. The very first cases and one of the most famous cases arose in the infancy

*Read before the Atchison County Medical Society, July 1, 1909.

of medical jurisprudence, and was touching the legitimacy of a child, born almost 11 months after the death of the father.

I believe the books show that medical jurisprudence had its origin in the early contests over the property rights of persons, involved in disputes as to the legitimacy or illegitimacy of children who might be heirs, or who, if living, might make their parent or parents heirs to vast estates. This same question is the frequent source of dispute in the courts of to-day and the medical brethren are called in to add their testimony on a given set of facts. This phase of the matter is now more settled by reason of the many adjudications upon the subject, and the extreme times of child bearing can now be said to be judicially fixed.

The science has followed the trend of most sciences and professions of to-day and has become specialized to a great degree. The great mass of human experiences along almost any given line, or in regard to any specific condition or crime, have been collated, so that any reputable physician, on being given the statement of fact, can at once give a convincing answer or state a legitimate conclusion from the facts before him. The universal spread of education among the people has done much toward settling many disputed questions and aided to chrystalize them into statute laws or adjudicate them into decisions of our courts.

My cursory examination of this matter from the medical standpoint, leads me to commend the subdivisions of the subject compiled by Mr. Tidy. I would suggest, however, that from the legal standpoint, the work should be divided into two chief classes, one having to do with the civil side of the law courts, and the other with the criminal side. Such a division would give us legitimacy and paternity of children pregnancy, live birth on the one side, and abortion, rape, infanticide, and other forms of homicide on the other.

There is a comparatively new class of cases coming into prominence at present, both on the civil side and on the criminal sides of the courts, that are attracting considerable comment. The first are those classes of cases affecting the competency of persons to transact business or to dispose of property by wills or otherwise. The second is the question of accountability for criminal acts done under certain conditions. The latter class of cases is fully set out in example by the recent celebrated Thaw case, where it was sought to excuse murder on the ground of the unaccountability of the murderer by reason of a brain storm. We are indebted to the physicians testifying in that case for coining the new term, brain storm, and adding it to the wealth of the medical vocabulary. I do not have much sympathy for the hard situation a defendant like Thaw finds himself in. The unwritten law could hardly be made to stretch far enough to cover his case, and the defense of brain storm seemed to be an invention of the medical genius to bridge over a desperate situation. I assume that it was done on the theory that the end justified the means. In any event, if Thaw's statement is to be credited, White was properly killed, and we have no quarrel with the medical

gentlemen in inventing a new way to prevent his punishment for the alleged offense.

The real question that comes up in connection with this class of cases, is the attitude of the medical fraternity toward society and the enforcement of the law along those lines. The physician stands before the law upon his honor and the law does not attempt to say what even his discretion shall be, but allows him full latitude to exercise his professional skill. The physician should return this confidence by giving to the courts his best service in the effort to detect and punish crime. If he does so the courts and people respect the sincerity, dignity and ability of the medical profession. If he fails to do so, he cheapens the whole profession before the people who are the final judge in our country.

In this respect it is worthy to note the gradual elimination of what, a few years ago, was termed expert testimony. The causes were always finally submitted to a jury for final determination, and only a short time ago it was greatly in vogue to call expert testimony, in the way of specialists, along any line but especially along medical lines. The physician was assumed to have a superior knowledge of what he testified to, and doubtless did, but a few miscarriages of justice, induced by reliance on such testimony which was not clearly disinterested, lead to the overthrow of the entire system of expert testimony, and now the practice is that any person can testify as to matters of his knowledge touching the condition of a person or other matter where expert testimony had formerly been exclusively used.

In this connection, a little story perpetrated by Lord Morris, the famous Irish judge, may not be out of place. Lord Morris was holding court at Coleraine, during the hearing of an action for horse poisoning, when he was very much amused by the self-sufficient air with which a doctor was giving evidence to the effect that twelve grains of the poison in question could be administered to the horse without fatal consequences. The judge eventually said to the witness: "Tell me this, wouldn't twelve grains kill the devil himself if he swallowed it?" The doctor, much shocked, drew himself up in the box in pompous fashion, and replied: "My Lord, I have never had the honor of prescribing for that patient." To this Lord Morris, using the broadest of Irish brogues, replied, in a most confidential tone: "Ah, no, dochter, dear, ye niver had. More's the pity, for the old boy is still alive."

The high ground of professional integrity and self-respect is the only safe ground for the medical fraternity in dealing with the courts. This they have always occupied and we believe will continue to occupy.

The other new phase of medical jurisprudence is much broader and far reaching in its effects on the lives of other individuals, because more persons are involved, and the question arises most frequently in the disposition of property.

The law deals with the manner in which a man may dispose of his estate. He may dispose of it by will or deeds, or otherwise, and the

evidences of his disposition be fair on their face, yet at the same time the disposition may not be that of the maker at all, but that of some controlling mind, dictating the disposition before death. This class of cases, from their very nature call for the highest and most conscientious service on the part of the physician, because his testimony carries much weight as to the competency of the testator, and the physician's testimony should be unbiased by employment or other considerations.

Every lawyer has these cases every year and it is a hard condition to meet. Much injustice grows out of it by reason of the fact that the only person who could shed light on the subject is dead and his lips are closed. Those who profit by his overreaching also keep silent on the subject and the victims of the injustice are usually compelled to suffer the injustice done them, when the testimony of a fearless physician, with knowledge of the incompetency of the deceased, would right the wrong.

I now have a case in mind. The facts follow. A is 75 years old. His first wife is dead. His children by her are married and gone from home. He marries a second time and has children by his second wife. His second wife is young and vigorous. He becomes feeble in health, is unable to work and takes to his bed. He becomes rapidly worse and the family physician is called in. Later he has a sinking spell and sinks into almost comatose condition. The family physician arrives in time to rally him by giving stimulants.

A is much emaciated and very weak. A lawyer is called to prepare a will. Lawyer comes. A is asleep, is awakened to see lawyer. Ostensibly discusses terms of will with lawyer. Lawyer retires to write will. A goes to sleep and is awakened to sign the will. Is unable to give names of two small daughters. Will leaves all the property to living wife and children by her. The question arises, is the paper the last will of A. Here is a family of children disinherited by A, who helped A to make the property he possessed at his death. This is as fair a case for determination by medical testimony as we usually meet. The will is manifestly unjust, but if A was competent to make the will at the time he made it, the will is good. The whole matter turns on the question of his competency. I should like to hear this particular instance fully discussed.

Medicine and law have always stood hand in hand in their efforts to uplift mankind. The legal fraternity have doctored humanity, politically and morally, while the medical brethren have looked after its physical welfare. There is a dignity pertaining to law which rests upon a certain kind of conservatism. The conservatism of medicine growing from a different class of considerations, rests as much upon tradition as does that of the law.

The practice of a lawyer is in the open court and his acts are open to public criticism, as well as public attention. He is judged, and must stand or fall, by virtue of the ability displayed in his handling of cases. The physician practices in the sick room, remote from the public gaze,

and his success is gauged largely by the results he accomplishes. Each profession has a code, and its accompanying forms, governing the practitioner, and each profession should respect the code of the other.

Lawyers, as a rule, adhere closely to the code governing the relations of lawyers to each other in the practice of law. Doctors adhere as closely to their code of ethics in the practice of medicine. Neither profession has been as careful in its attitude toward the other as it should be, in cases where they meet on a common ground.

We believe that the two professions should stand in an attitude of helpfulness toward each other, and to that end there should be a code of ethics governing the relations of lawyers and doctors.

Lawyers, as a rule, practice medicine entirely by ear. That is, they get hold of a case involving medical testimony, and they forthwith visit some unsuspecting doctor and ask him all the questions that they can think of about the medical features of the case, and form their conclusions from what they can learn from that source. They then spring it on the jury, and try to look wise while doing so, the same as though they had known the facts all along and were only permitting the doctor to testify to it as a mere matter of courtesy. In this connection an apt story is told of the late Grover Cleveland, who had been persistently annoyed by a brother lawyer, who absolutely refused to look up a case or do any labor in the way of looking up the law. He would get a case and then visit Mr. Cleveland's office and inquire of Mr. Cleveland what the law was governing it, and would put him through a severe cross-questioning upon the matter.

Mr. Cleveland became tired of this procedure and one day when his co-laborer appeared to know what the law was governing a certain case, Mr. Cleveland directed him to the library and told him that there were the books and that he could look the case up for himself. The lawyer was intensly surprised and indignant, he sprang up in amazement, and indignantly replied "Look here, Grover Cleveland, I want you to distinctly understand that I practice law entirely by ear."

So the lawyers practice medicine by ear, and they frequently illustrate the old saying, that any fool can ask questions which a wise man cannot answer, in the bungling way that they attempt to elicit evidence from the medical fraternity on the witness stand.

The importance of the relation of the man of medicine to his patients, as well as that of the lawyer to his client, is emphasized by the statute law of the land, in making communications between them privileged from being pried into by the inquisitive lawyer on the hunt for evidence. This is properly so, for next to the moral law for the cure of sick souls, as administered by the clergy of the land, and the family relation, the relation of the doctor and the lawyer to his patient and client is the most sacred of human intercourse.

It is not my purpose to discuss concrete cases, where the code of medical jurisprudence is applicable, in the enforcement of law or discovery of crime. Suffice it to say, that it has an ever widening field and

increases yearly in importance. Such a discussion, by a lawyer, would also lay one open to the charge of pedantry. It is much easier to ask the doctor, and the information received from that source is of much more value.

I have in mind a case or two offering unusual features that might not be amiss. Some two years ago a case came under my observation, in a breach of promise suit, where the woman was suing for a breach of promise of marriage. The man was manifestly innocent, and the case was one where the woman was attempting to take advantage of the fact that the man had shown her some attention. Very little good evidence is needed upon which to found damages, when a woman is asking it in a breach of promise case. The man had been in the company of the woman and had given her his picture. He had not been in her comapny but a time or two. Research developed the fact that the woman had had the operation of hysterectomy performed upon her and had one ovary and the fleshy portion of her womb removed. Medical evidence deduced the fact that she could not bear children, that she was barren, and that is a complete defense to the action. She lost her case.

Several cases of this character have come under my observation in the criminal line. A young girl, say about 15 years of age, becomes pregnant from some source. The fact of pregnancy is the only evidence of sexual intercourse, but it is too all-convincing of the existence of a crime to permit of argument. The question of the guilty party is the one to be determined. The girl usually lays it to some one of whom she thinks a good deal and invariably swears that only one act of sexual intercourse took place, and that she never had intercourse with any other male person.

The question is this, can a girl of that age become pregnant from a single act of sexual intercourse and that act be the first and only one in all her experience. I have tried, and helped to try, several cases involving this identical point. The medical evidence offered has not been of the convincing character that which it seems to the legal practitioner that it should be. If such a case goes to a jury with the testimony of the girl on one side saying that the boy did it, and the boy on the other side saying that he did not, and the doctor saying that it is very doubtful if the girl could become pregnant under the conditions, that she might or might not, hum, haw, and so on, the poor boy will be convicted by the tender hearted jury, who seem to think that the boy ought to have wanted to do it and should have done it whether he did or not.

You, gentlemen of the medical profession, would confer a boon on many a poor boy if you could fix some reasonable definite line of demarcation along this line. There is need for it.

Criminals, as a rule, are sharp only in their crimes. They do not know the laws of medicine as applied to the human body after death, and hence in this line the evidence and skill of the physician is of inestimable value in the detection and punishment of crimes where the evidences of the crime are sought to be concealed by disposition of the body after death

so as to stimulate accident. Poisoning, strangulation, asphyxiation, and others, are the common forms of this phase of criminology, that usually confront the physician.

Our courts have always stood for the best interests of the respectable physician and have offered him all the protection possible in his business and in his efforts to relieve human suffering.

A recent decision of our courts might be of interest to you gentlemen, since I have understood that your society has recently adopted a standard fee system to govern your charges.

In the case of Rolf vs. Kassemeier, reported from Iowa, in this year, the court held such schedule of fees so adopted to be legal and not a violation of the anti-trust laws, nor a combination of laborers to fix prices.

The court in passing on the matter has this to say "The most important question in respect to the combination of physicians to fix fee bills does not relate to the legality of such an organization, under the anti-trust laws, but to ethics, honor and self respect. The right of a physician to make a very small charge or none at all to those who have scant ability to pay is one which humane physicians without number have always exercised. This right would appear to be seriously restricted by the adoption of a fixed fee bill, unless it provides for exceptions in cases of that nature. It is certain that physicians who regard themselves as members of an honorable and beneficient profession, will not subscribe to a fee bill, if at all, without reserving the privilege of making exceptions in favor of the poor." (118 N. W. 276.)

This is a splendid tribute of respect and confidence paid by one profession to another, both striving to a common end.

But I must close, or I fear my hearers will need the services of some of the medical brethren. I shall not attempt a tribute to the life and services of the honest medical practitioner. His life is one long round of service in relieving pain and disease, and "service is the measure of greatness." There is no night too dark, or stormy, no road too long, or effort too great for the physician to reach his patient. Exposure, discomfort and hardships do not count with him when duty calls. Often, without the hope of reward, he goes and gives his time and his knoweldge for the alleviation of suffering, his only compensation being the consciousness of duty done. The doctor's calling is one of the mightiest of the earth. There is everything in it that calls a man to his highest sense of duty and his best efforts. The three greatest callings are the clergy, medicine and the law. Men cannot live to life everlasting without them and when men come to die they call the lawyer, the doctor and the minister.

So gentlemen, in passing I am glad to say that we should strive with each other, not in bitterness and malice, tearing one another, but in friendship, and unity toward the common end of benefiting humanity and adding to the world's store-house of discovered truth things that will aid those who come after us. Only in so doing do we live up to the full stature of a man.

THE PHYSIOLOGY OF SHOCK.*

By M. G. Seelig, M. D., and E. P. Lyon, M. D., St. Louis, Mo.

It seemed only a short while ago that the question regarding the underlying physiological basis of shock was settled for good and all. The excellent experimental work done by Crile established a doctrine, so generally accepted that one hardly felt the necessity for any further investigative work along similar lines. And yet, withall, the problem of surgical shock is not solved, and we are about as much in the dark as we were two decades ago. It is not entirely without interest to survey, from an historical point of view, the work that has been done along these lines. The clinical picture of shock, such as we recognize it to-day, was not unknown to the ancients; indeed, they vividly expressed their loss to account for death following severe trauma, without visible post-mortem lesions of gravity, by referring the *exitus lethalis* to a "Deus ignotus." And right here it may be said that the unknown god, by virtue of inherent necessity, still plays no small part in our conception of the etiology of shock. This vague and, if we may so term it, theistic conception was not displaced until toward the beginning of the 19th century. Indeed, the word "shock" as we now use it, was first introduced in 1795, by James Latta. Up to this time "shock" signified merely a force, or blow, but Latta changed the significance of the word, so that it connated the results consequent upon a force or blow. So apt is the word, and so specific in nature, that it has defied translation, and been taken over bodily in all the continental tongues.

Guthrie, Hennen and Travers did much to stimulate interest in the causation of shock, and their work was all the more effective by virtue of the fact that just about this time (1827) railroads were coming into popular use, and were increasing the list of cases of shock due to severe trauma. Astley Cooper, Copland, Paget, Erichsen, Pirogoff, Little, Syme, Savory, all added contributions to the subject. So far, however, no one had attempted to attack the problem by way of experiment. The Crimean war, and also our own civil war, with their tremendously long lists of injuries and fatalities, emphasized the absolute necessity of determining to what factors this obscure symptom complex owed its origin. The medical report of the Crimean war epitomized, in one sentence, the uncertain state of knowledge concerning shock, when it stated that "the term shock is a convenient name, but not a very philosophical

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Note.—From the Physiological Laboratory of the Medical Department of St. Louis University.

one." As a result of observations made during our civil war, W. W. Keen, Weir-Mitchell and George Morehouse,[1] working together, framed a theory that explained the phenomena of shock in accordance with the same principles laid down by Crile nearly forty years later. Keen's work was largely clinical, Crile's largely experimental. Keen's clinical deductions, however, were confirmed by experimental work done in Germany during the seventies by Jordan and Fischer, both of whom founded their work largely on the now famous experiments of Goltz.

As the problem stands to-day there are several contradictory theories. Crile[9] and his followers maintain that vasomotor exhaustion is the primary cause of shock, Boise[10] states that cardiac exhaustion is the prime cause, whereas Howell[11] believes that both these factors (cardiac and vascular) must be reckoned with. Meltzer,[12] after a critical survey of the literature, concludes that shock is consequent on the development of the inhibitory side of all the functions of the body. Kinnaman[2] argues for a disturbance of the thermogenic function, Jaboulay[3] for the formation of an irreducible oxyhemoglobin, Vale[4] for an increased specific gravity of the blood, Henderson[5] for the reduction of the carbon dioxid content of the blood and tissues (acapnia), Bainbridge and Parkinson[6] for a loss of chromaffin tissue following trauma, and Schur and Weisel[7] for a loss of this same tissue following the administration of volatile anesthetics.

Our object is neither to criticise these various theories nor to add a new theory to the already formidably long list. Cardiac excitation and inhibition, vascular dilatation and contraction, the modus operandi of the sympathetic nervous system, the complex phenomena of exhaustion and inhibition, would all have to be taken into account by a theory, despite the fact that not one of the factors that we have mentioned is understood fully.

This much is certain, however: that low blood pressure is a constant accompaniment of a pronounced degree of shock—so constant, indeed, that investigators practically always express the state of shock in terms of manometric pressure. We have based our experiments on the fact that the blood pressure is always low in shock, and we have set as our problem the determination whether the peripheral vessels are contracted or dilated during the time that the pressure is low in the larger, more centrally situated vessels, such as the carotids.

Mitchell, Morehouse and Keen, Groeningen and others assert that the peripheral vessels are not contracted, because, in the first place, no one has ever shown that they are, and, in the second place, because it is not probable that the peripheral vessels can be contracted tightly for any great length of time.

1. Circular No. 6, Surgeon General's office, 1864.
2. Kinnaman, R. C.; Internat. Jour. Surg., 1904, p. 378.
3. Jaboulay, L.; Lyon méd., 1904, p. 378.
4. Vale, F. P. Med. Rec., Aug. 27, 1904.
5. Henderson, Y.; Am. Jour. Physiol., 1908, p. 126.
7. Wien. klin. Wchnschr., Feb. 20, 1908.

Crile argues that, consequent on vasomotor exhaustion, the peripheral vascular system is paralytic and, therefore, relaxed. Porter,[8] on the other hand, denies Crile's contentions *in toto,* and seems to show that the vasomotor center is not exhausted. Neither Crile nor Porter, however, directed their attention to the vessels themselves.

Malcolm,[13] of London, dealing with the problem from a purely clinical point of view, makes two assertions: 1, that the peripheral vascular system is contracted in shock; and, 2, that a state of low blood pressure is thoroughly consistent with contracted peripheral arterioles. Malcolm makes an uncommonly strong clinical argument against the views of Crile in a fashion that refreshingly demonstrates the invaluable aid of clinical medicine to laboratory experimentation. If the theory of vasomotor exhaustion is correct, says Malcolm, then the network of smaller peripheral arterioles, being cut off from central control, must be relaxed. This relaxation should result in an overfilling of the vessels, but, as a matter of fact, all clinical evidence speaks against such an overfilling: the body surface is cold and pale, the mucous membranes are anemic, incisions made during the state of shock are almost bloodless, the radial pulse is often small to the degree of being inpalpable, and the application of surface warmth tends to lessen the symptoms of shock, despite the fact that warmth usually relaxes vessels.

There are three possible ways of determining whether the peripheral vessels are dilated or contracted: 1, the vessels may be inspected visually; 2, the outflow of blood from an organ or extremity may be measured; 3, coincident variations in venous and arterial pressure may be measured. In our work, which has been done on dogs, we have used only the first two or three methods. We studied visually the vessels of the retina and measured the outflow from the femoral vein. We selected the eye as the site of visual inspection of the caliber of the vessels, because this is the only situation where the vessels can be studied without the necessity of exposing them by dissection. It is unnecessary to say that the caliber of a vessel that has been traumatized by dissection affords no reliable index of the caliber of that same vessel in an undisturbed state. We selected the femoral vein from which to measure the outflow because the circulation in the extremity is, in the strictest sense of the word, peripheral, and because the femoral vein is more accessible than is the axillary.

Our procedure was as follows: Under Grehant anesthesia the carotid artery was connected to a recording manometer and the blood tracing started. Both femoral veins were dissected free, ligated where they leave the thigh to enter the abdomen, clamped just below this, and divided between ligature and clamp. Paraffined canulas were tied into the distal

8. Porter, W. T.; Am. Jour. Physiol., 1907-08, pp. 399, 444, 500.
9. Crile, G. W.; Blood Pressure in Surgery. Phila., 1903; An Experimental Inquiry into Surgical Shock. Phila., 1899.
10. Am. Jour. Obstetrics, 1907; Trans. Am. Gyn. Assn., 1908.
11. Amer. Med., 1904, p. 482.
12. Arch. of Int. Med., July, 1908, Vol. 1, p. 571.
13. Malcolm, J. D.; Lancet, 1905, i, ii, 57 Med. Chir. Tr., 1908.

ends of the veins. Both sciatic nerves were dissected free at the posterior aspect of both thighs, and a bridle ligature was placed under each nerve so that it could be drawn out and divided with ease and rapidity. Only a minimal amount of fall of blood pressure resulted from this preliminary, as a rule.

The clamp was now removed from the left femoral and the blood allowed to flow through the canula into a tall glass graduate of moderately small caliber. After about 25 or 30 c.c. had flowed out and the current of blood was running smoothly and evenly, readings were begun in order

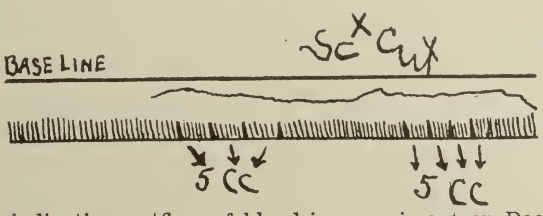


Fig. 1.—Tracing indicating outflow of blood in experiment on Dog 3. Moderate blood pressure. No evidence of shock. Division of sciatic (at ×) followed by more rapid outflow of blood from femoral vein. Time markings, 1 second.

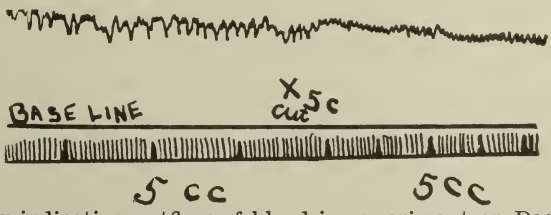


Fig. 2.—Tracing indicating outflow of blood in experiment on Dog 3. Very low blood pressure. Animal in profound shock approaching *exitus lethalis*. Division of sciatic (×) followed by a proportionately more rapid outflow from femoral vein than in Fig. 1. Time markings, 1 second.

to note the rapidity of the flow. The method of making these readings was as follows: At the moment the reading was begun an electric button connected with the second-time marker was pushed. After 5 c.c. of blood had flowed the button was pushed again, and this was repeated at the completion of the flow of each fifth cubic centimeter of blood until the time record on the drum showed four or five periods, each one representing the time flow for 5 c.c. of blood. Then the left sciatic nerve was severed and, after waiting a short while for the flow to steady, the time flow for 5 c.c. was recorded several times. The animal was then reduced by a state of shock, by manipulation and chilling of the abdominal viscera, and after the blood pressure showed a permanent fall the blood flow was measured from the right femoral vein, just as it had been from the left one, before and after section of the right sciatic nerve.

The vast majority of vasomotor impulses that reach the blood vessels

of the hind leg of a dog travel through the sciatic nerve; therefore, as is well known, severance of this nerve results in vasodilation in the extremity, and consequently in a more rapid flow of blood from the femoral vein. This point is illustrated by the tracing shown in Figure 1. Before the sciatic was cut it took seven seconds for 5 c.c. of blood to flow out, whereas after the sciatic was divided the same quantity of blood flowed out in five seconds. The crux of these experiments lay in the rate of outflow after the animal was reduced to a state of shock, for if in profound shock the vessels are beyond the control of the vasomotor centers, then severence of the sciatic nerve ought not to make any appreciable difference in the rate of flow. All our experiments showed that the proportional rate of flow from the vein was more rapid after division of the sciatic in a shocked animal than it has been from the opposite veins before the animal had entered the state of shock. Figure 2 is a continuation of the tracing shown in Figure 1, taken from Dog 3 of our series. This portion of the tracing represents a period when the animal was in a profound degree of shock. It will be noted that before the sciatic was divided it took nineteen seconds for 5 c.c. of blood to flow, whereas after section of the nerve it required only eleven seconds. This shows that the intact sciatic must have been transmitting impulses that were maintaining vascular tone. More than this, the proportionately more rapid flow* can not be due to an actually greater dilatation of the vessels in one instance than in the other, because in both instances we have a maximal dilatation consequent on severance of the nerve. It must be due to the fact that during shock the vessels (arterioles and capillaries) are more contracted than they are before the animal shows the effects of trauma. It must be borne in mind clearly that these experiments do not show anything more than that the division of the sciatic nerve of a shocked animal causes dilatation of the vessels of the leg, just as it does in a normal animal. This dilatation, however, is proportionately greater than that which occurs in the normal animal, and this proportional difference must be referred to the fact that in the shocked animal, before division of the sciatic, the vessels are in a state of greater contraction than they are in the normal animal.

Two reasonable objections may be made to our results, on the ground, first, that the time measurements were not accurate in the strictest scientific sense, and, second, that the anterior crural nerve was not severed so as to cut off all possible vasomotor impulses to the leg. As regards time measurements, they were not taken automatically and were, therefore, not true to a fraction of a second. Repeated experiments, however, demonstrated that this source of error was minimal, and, furthermore, our object was not to measure the exact time rate. We did not sever the anterior crural, because we found this procedure to be unnecessary. Our object was not to cut off all impulses, but to block out most of them.

*In the normal animal, the rate of flow before and after division of the sciatic was 7 to 5, whereas in the shocked animal the rate was 19 to 11. These two sets of figures demonstrate a proportionately more rapid outflow in the shocked animal.

The task now remains to confirm by visual inspection the statement that the peripheral vessels are contracted. For reasons already stated, we selected the retina as our field for this part of our work, and we are indebted to Dr. John Green, Jr., for our ophthalmic reports. Unfortunately, we failed in efforts to devise a scheme for measuring, with absolute accuracy, the diameters of the retinal vessels. In order that Dr. Green might not be prejudiced by the facts already secured by us, he was not told about them, being merely requested to examine the fundi of the dogs' eyes, before and after shock was induced, and to note carefully the size of the vessels. He took the size of the optic disc as his standard and compared the size of the vessels with it. In every instance he reported that the vessels showed a marked degree of contraction after the animal was in shock. The vessels contracted down to from one-third to one-half of their size before shock.

Two observations were particularly interesting: In one case the dog died immediately after an examination of the fundus which had disclosed marked contraction of the vessels, thereby demonstrating that vasoconstriction persisted up to the very point of *exitus lethalis*. Unfortunately, we neglected to examine any of the fundi after death in order to see if vascular relaxation occurred. The second observation of especial interest was a case in which the retinal vessels were contracted so tightly as to make them resemble mere strands. In this connection it is interesting to note that ophthalmic literature contains at least two reports[14] of sudden blindness occurring during shock, lasting from two to five hours, and then passing off without leaving any demonstrable eye changes or disturbances of vision. Roberts, who makes these reports, does not give the fundus findings during the state of shock, nor does he attempt to explain the cause of the blindness; but it seems fairly reasonable to assume that the occurrence of a sudden acute anemia of the retina, resulting from pronounced contraction of the retinal vessels, might cause transient blindness.

In conclusion it is important again to emphasize the fact that the experimental work detailed in this paper is in no sense of the word to be taken as an explanation of the causative factor or factors of shock. Just as Porter claims to show explicitly that in shock the vasomotor center is not exhausted and, therefore, implicitly that the peripheral vessels are not paralyzed, so we try to show explicitly that the peripheral vessels are contracted, and implicitly that not all the vasomotor centers can be exhausted. The complexity of the vasomotor apparatus, with its multiplicity of centers, and the seemingly independent action of many of these centers, render it impossible to frame a satisfactory theory based on our results. This much may be said with assurance: If the work herein detailed stands the test of confirmation, then the doctrine that shock is due to vasomotor exhaustion must be revised.

14. Roberts, W. O.; Am. Pract. and News, 1907, p. 24.

Note.—A complete bibliography of Shock up to 1886 may be found in G. H. Ghroeninger's "Ueber den Shock," Wiesbaden, 1885, from which we have quoted freely in the opening paragraphs.

EMPYEMA.*

By J. W. Holliday, M. D., Tarkio, Mo.

This term is applied to a collection of pus in any cavity, but by common consent, unless some other cavity is specified, it is understood to refer to that of the pleura. Pus may be found here as the result of the same causes that bring about serous effusion, plus the contamination by organisms from the lungs or more remotely through the systemic circulation.

In cases of penetrating injury of the pleura, when air has entered this cavity it is not unlikely that collections of blood or serum will become thus directly contaminated and empyema be the result almost from the outset. As a rule, however, it is the result, perhaps the termination of a chronic process. In recent cases the pleura does not have time to become very much thickened; but in long-standing cases, especially those in which spontaneous perforation has occurred, the pleura becomes infiltrated and altered, so as to lose all resemblance to its original structure, and to be found sometimes almost 2-5 of inch thick. Under these conditions it is more like leather than like living tissue. A collection of pus having occurred within the pleural cavity from any cause, several possibilities exist: Its fluid portion may be gradually absorbed and its solid material remain to cement the pleural surfaces together and to caseate and finally to disappear; or it may excite further production of fluid of the same character which will produce such urgent symptoms as to necessitate relief; or it may evacuate itself either by rupture into a bronchus or bronchiole and escape by the mouth or by perforation elsewhere in any one of various directions. Thus it has been known to burrow down around the external intercostal muscles which terminate under the intercostal cartilages and to appear at various points about the thorax, or to perforate or burrow around the fibers of the diaphragm and cause, perhaps, a subdiaphragmatic abscess, or to take some other unusual course.

It has, for instance, been known to perforate behind the mammary gland, and, pushing itself forward, to assume enormous size as a retromammary abscess; or to separate the diaphragm, and then the peritoneum, and to make such a dissection of it from the abdominal wall as to appear in the pelvis and in the abdominal wall as an enormous extraperitoneal abscess. But these are unusual cases, and it ordinarily gives rise to the same character of disturbance as a collection of serous fluid, with the addition of the constitutional signs of the presence of pus, such as chills,

*Read before the Atchison County Medical Society, April 22, 1909.

irregular high temperature, emaciation, hectic fever, etc. For the production of an empyema the pus-producing microbes must be present. The inflammation may be purulent from the start or a pleurisy with effusion may be converted into an empyema by the addition of pyogenic bacteria. The pus in empyema is not made up simply from the white blood-cells which have come through the walls of the blood-vessels by diapedesis, for their numbers are far too great for that to be possible. These cells undoubtedly subdivide rapidly after escape from the blood-vessels. In enumerating the etiological factors of empyema we cannot do better than to say that they are much the same as those mentioned under pleurisy with effusion, the empyema being simply a further stage in the same process, whether the pus be produced from the start as a result of infection with pyogenic organisms or whether it be due to a later infection engrafted on a sero-fibrinous exudation (diplococcus pneumonia). This germ is found in a large proportion of meta-pneumonic empyemas. We find about 75 per cent. of the purulent pleurisies of meta-pneumonic character in children. This germ is short-lived and is not very virulent, hence most of the empyemas in children are more easily cured than is empyema in adults. It is found in a certain number of cases of empyema where no lung lesion can be discovered. This does not, however, rule out absolutely the evidence of a previous pneumonic process, for in children—a class in which a large proportion of these cases are found—a central pneumonic process not easily diagnosed often occurs. This has doubtless been the case in many instances and the presence of the pneumococcus is the only guide to the etiological factor. The aphorism, "as a man thinketh in his heart so is he," not only embraces the whole of a man's being, but is so comprehensive as to reach out to every condition and circumstance of his life. Therefore I may say the exact route taken by this germ on its way to the pleura has not as yet been clearly proven; the lymphatics, the lung-tissue, or blood-current may be the route chosen. There is nothing unreasonable in the assertion that the germ may travel into the pleura and there set up a pleurisy without causing any pneumonia along its path. The pleural membranes may happen to be a more suitable soil for its development at that time than is the pulmonary tissue. This bacillus is found in about one-third of all cases of empyema. It often, but not invariably, produces a thick, viscid pus of greenish tinge. Pleurisy is practically always due to an infection by some microörganism. In a large number of cases it arises as the result of an invasion of the lung by the pneumococcus, with or without an associated pneumonia. In other instances it is due to the entrance of pyogenic organisms such as the staphylococcus and streptococcus, and in still other cases from invasion by tubercle bacilli. There is another process by which infection of the pleura may also take place through the pericardium, the mediastinal tissue, the vertebræ, and the diaphragm. When empyema follows pleurisy the necessity of setting free the pus enables us to determine the character of the infection in the great ma-

jority of cases and gives us some conception of the relative frequency with which pleurisy follows infection by different organisms. These loculated effusions are more common in cases of empyema than in ordinary cases of pleurisy with effusion. Empyema, like pleurisy, has its sequel and I believe most cases are secondary and not primary. Pleurisy occurs most frequently in the early spring and autumn when great changes in temperature take place. This does not mean that exposure to cold produces pleurisy directly, but rather that the exposure reduces vital resistence to such an extent that infection takes place. I think beyond a doubt that some form of pleural effusion is the primary factor by which the majority of cases of empyema ensues. It was taught at one time that such an effusion might primarily be serous and by infection become purulent, but at present this view is not generally held.

Empyema occurs as a sequel to infection from the lung in the great majority of cases, but it may arise from primary infection of the pleura. The condition is far more common in children than in adults. In children it is generally the result of the presence of pneumococcus, which commonly causes a bronchopneumona or a croupous pneumonia first and an empyema afterward, but in adults the streptococcus is usually the exciting cause. The infection may by the tuberculosis bacillus and it is a fact worthy of note that the pus in such cases is usually sterile, only revealing the presence of tubercle bacilli, when some of the exudate which lines the pleura is obtained through the aspirator. In other words, sterile pus from an empyema raises a suspicion of tuberculous infection. When no pulmonary lesion can be discovered in a case of empyema, it must be recalled that a very small and insignificant lesion in the lung and, therefore, one which is easily overlooked, may be the focus for a very severe pleural infection, and, therefore, the inability of the physician to find a primary pneumonic lesion does not prove that it has not existed.

The character of the pus in empyema varies considerably in different cases, the variation depending in part upon the microörganism which has produced the condition; usually it is creamy, in other cases it is thin and separates on standing into a thick and thin layer. When the effusion is an old one the pus may be quite thick and curdled in its appearance, containing clot-like masses or shreds of fibrin which plug the aspirating needle and make aspiration impossible. While the color is commonly a creamy yellow, it is sometimes slightly pinkish in appearance, and may be greenish in hue, and in other cases, when a considerable amount of blood has been extravasated into the effusion, it is a dirty, pale cocoa color. We find in a majority of cases due to infection by the pneumococcus, the pus is almost odorless, while in others, particularly if the empyema has ruptured into a bronchus, it is fetid. Purulent effusions in the pleural spaces are usually profuse, but as a rule I do not believe as large as serous effusions; on the other hand, they are very much more likely than are serous effusions to be walled off and encysted by reason of adhesions, thereby forming a small pocket of pus. The chief

complications of empyema are sepsis and perforation. The signs of sepsis are similar in this state to those produced by accumulation of pus elsewhere, and require no further attention. The differentiation of empyema from serous effusion is to be made by the presence of the septic symptoms and by the use of an aspirating needle to determine the character of the fluid. The localized types are those which offer real difficulty in diagnosis, since the pus may be between two lobes of the lung, or at the base of the lung next the diaphragm, or be extended over a considerable area while very shallow; or again, the inflammatory process in the adjacent lung tissue causes the presence of the physical signs of consolidation of the lung or of large effusion, when in reality the purulent collection is a small one. Introduction of the aspirating needle may fail to reveal the presence of pus, because the instrument does not happen to exactly strike the purulent focus. When the pus is localized by adhesions in the neighborhood of the heart, this organ may be displaced by the pressure and transmit its impulse to the effusion; so giving rise to the belief that a purulent pericarditis is present; the absence of this more serious state being revealed only when the pus is set free.

Interlobar pleurisy with effusion. In such cases if the accumulation is pus, it may rupture into the bronchi and give rise to the belief the patient has true pulmonary abscess. Theory after theory has been advanced, has lived its day and has taken its place in formulating a part of modern superstititon. For it is true that the accepted theory of one generation becoming disproved theory of a later one still retains an influence which is a determining factor in the view and opinion of laymen long after scientific physicians have discarded it. I do not wish to give a rehearsing of the history of medicine. Hippocrates, Galen, Celsus and Harvey rest from their labors and their works follow them. If we may credit the story which has descended from mythological times, the operation for empyema had its origin in an accident. It is related that a certain Phalereus, who was attacked with what was denominated as ulcer on the lungs, was pronounced by all his physicians to have an incurable disease. In his despair he exposed himself in battle so that he might be slain. The enemy's weapon, however, pierced his side, making an opening through which the pus escaped, and he recovered. This opened the field for which many plans and methods for operating on empyema. Hippocrates' operations were made by boring through the rib. So impressed were the disciples of Hippocrates by this view that they adopted the operation of perforating a rib instead of cutting through the intercostal space, because they could with more ease stop up the orifice and regulate the outward flow of the fluid. And if a hemorrhage ensued they could control it by plugging the hole. The evolution of the doctor has been slow and gradual, but almost constantly progressive. He has groped in the dark and guessed. He has struggled upward to the light and found it. He has received the command, know thyself; and has responded, I will; and neither time nor decay can destroy the structure

of exact knowledge and fact which he has built to the glory of God and the benefit of his fellow-beings.

The very fact that the profession is a product of evolution leaves for it only two conditions, progress or degeneration. There is, besides these, no alternative. If the medical profession of Missouri chooses to stand still, to cease the struggle for advancement along every line, the moment such a choice is made by an inevitable law of evolution, at that moment degeneration begins, and we shall become a withered member of our societies, national and international. If, on the other hand, we struggle for the attainment of the highest ideals, just as certainly, by the power of unchangeable law, we shall become strong and the other members of the great body of medical men at home and abroad will glory in our strength and development.

ASTASIA-ABASIA. REPORT OF A CASE.*

By J. D. Brummall, M. D., Salisbury, Mo.

The rarity of these cases and the likelihood of their being overlooked by the general practitioner, are my reasons for reporting this case.

Astasia-abasia is not a disease *sui generis*. The phenomena are thus far inexplainable in the absence of discoverable lesions. It is a functional neurosis and is closely allied to hysteria. P. Blocq first described astasia in 1888, as being an inability to stand, contrasted with integrity of sensation, muscular strength, and coördination of other movements of the legs. Abasia is a difficulty in starting the act of walking from a state of previous rest. This is a disease of adults and occurs equally frequent in men and women.

The symptoms consist either in a tendency to fall when standing upright or attempting to walk, or of great difficulty in locomotion, the body swaying or making various contortions to maintain the balance, while the patient grasps eagerly at any possible support and exhibits every manifestation of fear. In some cases the upright position, and especially walking, is impossible. If the patient is lifted up and supported on either side, the legs hang powerless. This same patient, however, when lying in bed, shows neither loss of power nor incoördination, and is perfectly able to crawl on the hands and knees and handle the limbs in any way. Some patients will be able to stand, if supported on either side, and still others may have limited or difficult locomotion, dragging the feet in short steps with irregularity and deviations. In this degree the patient may remain standing, but from time to time will exhibit a sudden giving-way of the legs followed by equally sudden recoveries. Closing the eyes usually increases the difficulty, but sometimes improves it. If the patient will attempt to walk cross-legged or backwards, the normal gait may be temporarily restored. In the unconscious variety the patient is without any idea that he cannot stand or walk, when he suddenly finds that he cannot do either. Another variety of astasia-abasia is the "hypochrondriacal," in which the patient acts under "conscious" erroneous impressions that he cannot walk or stand. A third form is associated with some suddenly acting shock, as fright, which acts inhibitorily on the motions of the patient. Finally there is a "coercion" variety of astasia-abasia in which the patient, while in the act of walking or standing, is suddenly seized with the idea that he cannot walk or shall not walk. This differs from the hypochondrical form in that the patient

*Read before the North Missouri Medical Association, Moberly, June 17-18, 1909.

is conscious of the erroneousness and absurdity of the idea, but is nevertheless controlled by it.

These forms are not always sharply defined. Suddenness is especially characteristic in the unconscious form. In other cases the patient may walk a few steps and suddenly break down; sometimes he stands as if rooted to the ground.

The diagnosis is based upon the retention of absolute integrity of sensation, of muscular strength and coördination of the legs demonstrable in the recumbent position.

The case I had was a lady of thirty-five years, somewhat of a nervous temperament, yet she was well nourished, bright of mind and looked the picture of health. She was seemingly happily married; husband prospering. She has two children, ten and thirteen years old. Labors were ordinary. She has not been sick since that and has only complained a few days at a time from any cause. She began to complain last January of soreness of the feet, limbs, hip and back and walked with difficulty. She slept well, ate well, looked and felt well, with the above exception. Her trouble was thought to be rheumatism and she used the ordinary remedies, both internal and external, without benefit. On seeing another doctor she was told that she had spinal sclerosis and to the other symptoms was then added a sore and swollen spot at one side of the spine in the lumbar region. She was put to bed, massaged and given potas. iodid for four weeks, with slight improvement.

Up to this time I had not seen the case, so the history I have given above is hearsay. At this juncture she fell under my observation. She looked the picture of health, ate and slept well. The tender spot on her spine could still be found by pressure and she had an irregular, wobbling gait, with sudden drops and catches in her steps. Muscular coördination was perfect in the recumbent position. Pain in limbs and back only on effort to stand or walk, soreness in them something like a myositis. Kidney and all secretions normal.

Four weeks of absolute rest in bed, away from family and friends, with good diet, some massage, and suggestive treatment, very much improved the condition and she has so continued since returning home.

This trouble being a functional neurosis and so nearly akin to and often accompanied by hysteria, the same treatment applies. They recover more quickly and are not so apt to a recurrence as in hysteria; yet some cases are quite obstinate.

REPORT OF A CASE OF DRY GANGRENE.

By G. W. Whiteley, M. D., Albany, Mo.

I was called on December 1st, 1906, to see Mrs. F., aged 86; found her suffering from a severe attack of influenza, fever 103° F., low, muttering delirium, which lasted for three days, fever dropping on second day to normal. On the night of the third day she became a raving maniac, the mania lasting from the third day, Tuesday, until the next Sunday morning at 3 a. m. No sleep in the interim, but she dropped into a light sleep and gradually fell into a profound slumber by 4 a. m. Sunday, which lasted until 8 a. m. She awakened in bright spirits and called for friends and breakfast, not realizing the time that had passed (some ten days) and believing only a night had gone by since her attack. She had no more mania, but I watched my patient closely, knowing that following such attacks one may expect sudden demise from blood clot, causing apoplexy. The following Tuesday she called my attention to her left forearm and hand when I visited her in the morning, and told me that when she awoke at six o'clock that morning she found her arm and hand paralyzed. Examining it I found a clot of blood had passed into the subclavian artery and lodged at the bifurcation of the ulna branch or above it, completely cutting off the circulation below. Watching closely I succeeded in about ten days in getting a feeble pulse in the ulnar artery and in fifteen days the radial pulse was discernible; demarcation was complete just above the second phatangeal joints of fingers, and palmar side of thumb and little finger of hand were attacked, as well as a patch, some four inches above the hand, 3 inches long by 2 inches wide. In about thirty days I removed all of the fingers and thumb above the second joints and also the palm of hand, the patient watching me. In eighty days she was completely recovered as to healing and could use the stub of hand very well. She is now living in Carthage, enjoying good health. If this condition had been in a young person, I would have removed or amputated the arm and no doubt would have lost my patient, but being old and enfeebled, I began a radical treatment and succeeded in saving my patient's life. The treatment was as follows: Three triple arsenate pills three times a day after eating; two grains brown iodide of lime every three hours; 20 gtts. echinacea (fl. ext. of the green drug) four times a day; ten 1-10 gr. calomel tablets every third day with saline every morning; bathing the hand in hot water three times a day and using the following lotion after:

Bal. fir.
Oil of cedar.
Oil of sassafras.
Chloroformi, āā .....dr. i
Alcohol, q. s. ft.....oz. iv

Watched the kidneys and kept them active with an occasional dose of arbutin. I have never heard of such a case recovering, except when an operation was performed, and only very few of them.

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ADDRESS ALL COMMUNICATIONS TO METROPOLITAN BUILDING, ST. LOUIS, MO.

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E. J. GOODWIN, M. D., Editor.

PUBLICATION COMMITTEE:

Walter B. Dorsett, M. D., Chairman. M. B. Clopton, M. D. M. C. Shelton, M. D.

EDITORIAL

COUNTY SOCIETY REPORTS.

We want to make a special request upon county society secretaries to send reports of their meetings for publication in the JOURNAL. There can be no doubt about the value of these reports, not only to the members of the societies whose reports are published, but also to the other societies; for it is an encouraging stimulus to the members of one society to learn of the work done in other societies. Thus the methods that have contributed most largely to the success of the meetings of one society may be imitated by others, and the mistakes avoided. The columns devoted to the reports of county societies should constitute a bureau of information, analysis, and suggestion as regards the means and methods for making the county meetings attractive, interesting and successful. The cultivation of closer personal acquaintanceship should not be overlooked and social meetings should be held at suitable intervals; and that there is much to commend such diversion from the regular routine of scientific work, is emphasized in the report of the Macon County Medical Society in the September issue.

One of the most important phases of county society work, with respect to the scientific proceedings, is the study of the post-graduate course. Quite a number of county societies have recently adopted this course as a part of the regular proceedings of each meeting, and its value was at once apparent. In commenting upon the beneficial influence of the post-graduate course, after its adoption by his society, the secretary of

Macon County Society says: "Our society is doing the most satisfactory work it has ever done, and we heartily commend the plan to other county societies of taking up the various organs and studying them for a period, as it stimulates study and increases interest;" and the secretary of Henry County quotes one of the members of a committee appointed to suggest a plan for the study of post-graduate work in Henry County Society, as having been surprised and pleased to observe how much could be accomplished by application and study upon one subject for two weeks. In St. Joseph the society has set aside certain hours for the study of the post-graduate course, and has purchased a stereopticon outfit to be used in connection with the work.

Perhaps it is well to remind the members that the State Anatomical Board will furnish sections of anatomical material for use in this scientific study. Those who wish to obtain material for this purpose should address Dr. C. M. Jackson, secretary of the board, Columbia

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EXTENDING KNOWLEDGE OF HYGIENE AND SANITATION.

The Public Health Education Committee of the American Medical Association, appointed by the House of Delegates at Atlantic City last June, has already begun an active campaign in the matter of popularizing knowledge of hygiene and sanitation. This committee is composed entirely of women physicians, members of the A. M. A., and aims "to disseminate accurate information concerning the nature and prevention of disease." To this end it plans to interest women's clubs, social settlements and girls' schools and colleges, in the broad and vital subject of right living—*i. e.*, preventive medicine—by means of popular lectures.

Dr. Rosalie Slaughter Morton, of New York, is chairman of the committee, and Dr. Evelyn Garrigue, also of New York, is the general secretary. A state secretary has been appointed in each state, who will be responsible for the work in her individual state. Missouri plans a health day for every women's club in the State, at which time such subjects as the following will be presented: Antituberculosis Work, Pure Milk and Infant Hygiene, Medical Inspection of Schools, The Cause and Prevention of Colds, etc.

Dr. Mary H. McLean, 4439 Delmar avenue, St. Louis, is secretary for St. Louis, and Dr. Frances L. Bishop, 4271 Washington avenue, St. Louis, is State secretary.

ONE JOURNAL FOR THREE ASSOCIATIONS.

The medical associations of the States of Washington, Idaho and Oregon have jointly assumed control of *Northwest Medicine,* formerly the official organ of the State Association of Washington. The journal appears in neat form, being of the size of 8½ by 12 inches, instead of 6¼ by 9¼ as formerly published. The larger form has many advantages over the smaller size and its adoption might perhaps form a proper subject for discussion by other state associations now publishing journals of smaller size.

The method of publishing the proceedings of several associations in a journal owned jointly by all the organizations participating in its conduct, seems a happy solution of a problem that has confronted the profession of those states where the numerical strength of the organizations is so small that the publication of the proceedings in journal form would be unprofitable, and constitute a burden too great for the associations to bear, or, if undertaken, would limit its influence through irregularity of issue and inadequate preparation. When several associations join in the publishing of a journal there would be sufficient financial support for the project, to permit the employment of a qualified person to give the proper amount of time and attention to the routine work necessary for preparing and issuing the journal in acceptable form, without interfering with the professional labors of the editor, whose time is already fully occupied.

Northwest Medicine is one of the best edited and most carefully conducted of the state journals, and we congratulate the members of the associations controlling it in possessing such a splendid medium for the publication of their proceedings.

PERSONAL AND NEWS NOTES

Dr. E. J. Logan, of St. Joseph, has returned from a ten weeks trip abroad. Dr. Logan was a delegate to the International Medical Congress at Budapest.

Dr. William F. Kuhn, formerly superintendent of the Insane Hospital at St. Joseph, has moved to Kansas City, where he will limit his practice to mental and nervous diseases. He has offices in the Shukert Building.

Dr. E. A. Derwent, of Clinton, has gone to London, where he will spend some months studying ophthalmology in the Royal Ophthalmological Hospital and other similar institutions.

Dr. W. A. McCandless has resigned as chief surgeon of St. Mary's Hospital, St. Louis. The surgical work of the hospital will hereafter be under the charge of two surgeons, and Drs. John McH. Dean and Louis Rassieur have been appointed to the positions.

Dr. E. W. Schauffler, of Kansas City, has been appointed medical director of the Jackson County Society for the Prevention of Tuberculosis. The society has established pavilions on the grounds of the old General Hospital and will begin active work in caring for consumptive persons and educating the people in the means of preventing the spread of the disease.

The Southwest Missouri Medical Society will meet in Springfield, November 4 and 5. Dr. H. S. Hill, of Springfield, is secretary, to whom all letters pertaining to program should be addressed.

The St. Louis University has established a new department for post-graduate instruction in ethics and psychology. The courses are designed for the students in the medical and law colleges. The Rev. Father Matthew McMenanny will have charge of this department, assisted by Rev. Father William F. Robinson.

The Physicians of Higginsville are working in harmony with each other in the interests of improvement of facilities relating to the better practice of medicine. It is believed that in a short time they will have an emergency hospital of which any small city may well feel proud. Interest is being brought to bear on the citizens of the town, and the time for completing the organization of such an institution appears to be near at hand.

Medical Defense in Michigan. The Michigan State Medical Society has adopted the plan of defending its members against suits for malpractice. The by-laws were amended so as to provide for an initial assessment of $1.50 from each member of the Association for the year 1910, and an annual assessment thereafter of $1.00 per year. Some objections were raised against the plan, but we believe these will disappear. The benefits to the members are fully understood and the practical application of the system will clearly demonstrate its importance, both as a protection against and a preventive of malpractice suits.

The Antituberculous commission of the Greene County Medical Society has started an active campaign toward the organization of a vigorous antituberculosis association in Springfield. Many prominent people in the State have manifested their interest in this work and the Medical Society is greatly encouraged in its efforts to restrict the spread of the disease and establish suitable quarters for the proper care and treatment of those already afflicted.

The St. Louis Municipal Commission on Tuberculosis has had numerous meetings during the past month at various public places where lectures, stereopticon views, and other methods of demonstrating simple measures for the prevention of the spread of tuberculosis, were brought to the notice of the people. The Commission is working systematically and effectively in spreading knowledge among the people of the best means of preventing tuberculosis and how to care for those who are afflicted.

The Physicians of St. Joseph have endorsed the new charter to be voted on for adoption, and have approved a provision to establish the board of health upon broader lines than at present obtains. The board of health of St. Joseph is now a committee of the city council, but under the new charter it will be an independent body, appointed by the mayor and at least one member must be a physician.

The American Association of Obstetricians and Gynecologists closed an interesting session at Fort Wayne, September 23d. The following St. Louis doctors read papers: Dr. W. B. Dorsett, on the subject of "Calcareous Degeneration of the Fibroid Uterus;" Dr. W. C. G. Kirchner, "Ovarian Pregnancy at Term;" Dr. Ernst Jonas on the subject of "Advantage of the Combined Intraperitoneal and Extraperitoneal Urethro-Lithotomy for Removal of Stones from Lower Ureter." Dr. John Young Brown performed several operations at a clinic.

OBITUARY

WILLIAM FRANCIS MITCHELL, M. D.

Dr. W. F. Mitchell, of Lancaster, Schuyler County, died at his home September 11th, 1909. Dr. Mitchell was a native of Missouri, having been born on a farm near Lancaster on September 22d, 1842. He attended the schools of the county and also a private academy in Lancaster and later attended Shurtleff College. Toward the close of the Civil War he served in the Federal Army for several months. After the termination of the war, he took up the study of medicine, serving, as in those days, under his preceptor, Dr. W. L. Lamber, of Lancaster. He graduated at Ann Arbor in 1868 and later took post-graduate courses at Chicago and New York. Soon after his graduation he returned to his home at Lancaster and practiced his profession in that locality continuously until his death.

He was a member of the Schuyler County Medical Society, Missouri State Medical Association, American Medical Association, American Public Health Association, surgeon for the Keokuk and Western Railway, and U. S. pension examining surgeon from 1885 to 1895.

Dr. Mitchell possessed a peculiar adaptability for his profession, and his life was filled with the good deeds which endeared him to every family he served.

HENRY THORNTON, M. D.

Dr. Henry Thornton, of Maplewood, Mo., committed suicide at his home on September 12th. Dr. Thornton graduated from the Barnes Medical College in 1901 and immediately afterwards moved to Pittsburg, Texas, where he practiced for several years. About two years ago he returned to Missouri and located in Maplewood.

JUSTIN STEER, M. D.

Dr. Justin Steer, of St. Louis, died at his home on June 20th, from the effects of poison self-administered, while under a mental strain due to his belief that he had an incurable affection of the heart. He was 60 years old. He graduated from Washington University and at the time of his death he was a member of the medical faculty of that institution.

Dr. Steer's character was marked by many qualities which are worthy of mention. He was modest and unassuming, just and upright; he was not only a student of disease but of human nature. And with these attributes was combined the patience so necessary to success in the practice of medicine. Of his medical career his thoroughness, evidenced in the correctness of his diagnoses, was an outstanding quality that was recognized by all his confrères. His opinion in diseases of the heart

and lungs was always so weighty that it never invited any other criticism but the favorable remark that meant that his judgment must be sound enough to pass unquestioned. By the death of so valued a member of the medical profession, the ranks of the men who are noted for their calm and collected thought, the sanity of their opinions and the continuous desire to improve their knowledge, have been robbed of no secondary ornament.

WILLIS P. KING, M. D.

Dr. Willis P. King, of Kansas City, died at his home on July 13th. Dr. King had been confined to his bed for several months and gradually passed away from the effects of uremia. He was born in Macon County, Mo., December 21, 1839, and graduated in medicine from the St. Louis Medical College in 1866. Later he went East and took post-graduate courses in Bellevue College and the New York Polyclinic.

Dr. King rose to high eminence in the practice of his profession and was also a conspicuous figure in political and social circles in Missouri. Out of his many experiences as a practitioner in country districts, Dr. King wrote the "Stories of a Country Doctor."

COUNTY SOCIETY NOTES

CLINTON COUNTY MEDICAL SOCIETY.

The Clinton County Medical Society held its regularly quarterly meeting on Tuesday, September 7th.

While the inclement weather kept many members away, every member on the program was present and read an excellent paper. The papers were discussed by all present with vim and enthusiasm.

The following program was rendered: "Injuries and Ailments Following Labor," by Dr. G. B. Rush. "Gelsemium," by Dr. J. T. Kimsey, of Lathrop. "Embryonal and Foetal Pathology," by Dr. M. L. Peters, of Cameron. "Side Issues that the Obstetrician Meets," by Dr. C. M. McConkey. "The Doctor as a Fool Killer," by Dr. A. W. Robertson.

Dr. A. W. McAlester, Jr., of Kansas City, was with us and gave us an excellent talk on "What the Component County Society Means to the State and Nation." The talk was full of good thought and excellent truths for us and we certainly appreciated his coming.

The next meeting will be an open meeting with a night session at Lathrop, on October 26th.—C. M. McConkey, M. D., President.

HENRY COUNTY MEDICAL SOCIETY.

The Henry County Medical Society met in Windsor, on Wednesday, September 15th. Members present: Drs. Gibbins, Haire, McNees, Blackmore, Head, Jennings, Griffith and Douglass; Dr. F. J. Beattie, from Kansas City, and Drs. Shadburn and Wall, of Windsor, visitors by invitation.

Dr. R. J. Jennings read a paper on "Sources of Infection," going into the subject very thoroughly; he told how pathogenic macroparisites and microparisites occurred on skin and mucous membrane and in the different secretions and excretions of the body, how they were transmitted by animals, flies, mosquitoes, water and soil infection, how food was contaminated and the results. The paper was well read and was heartily approved and commended by all present.

Dr. Shadburn discussed some old theories concerning struma and scrofula, so-called diseases, now considered indications of tuberculosis. Before the days of bacteriology, the doctor waited for the frost to exterminate malaria and yellow fever, whereas now we know that the frost is effective only because it kills the mosquito, the carrier of the malaria and yellow fever germ.

Dr. Haire gave the new thought on tuberculosis as regards bovine virus and milk infection, promulgated by the International Congress on Tuberculosis.

Dr. T. J. Beattie, of Kansas City, read a report of cases to illustrate the manner of invasion of infection and how he treated such cases, confining himself to the pelvic viscera. This paper was very interesting

and instructive. It was discussed by Drs. Haire, Blackmore, McNees, Gibbins and Jennings.

Dr. Head reported a case of laceration of the perineum and described the operations in vogue for the repair of this condition. He pointed out the frequency of failure following operative measures and advised the use of a continuous suture in uniting the mucous membrane first and then sewing to the integument.

Dr. Griffith reported a case of depressed fracture of the temporal region, which he relieved by raising the bone that impinged upon the brain, with the loss of some brain substance. The patient made a complete recovery. He also reported a case of injury to the leg, in which the bones were so badly crushed that amputation was necessary. He dressed the stump with iodine solution and the patient made an excellent recovery.

Dr. Blackmore reported a case, a girl of 16 years, that terminated fatally, in which severe pain in the head was the most prominent symptom. He described all the symptoms, and the treatment he had followed, and asked the members for their opinion as to the cause of the condition. Opinion was divided between meningitis and cerebral hemorrhage.

The study of the post-graduate course is highly commended by all the members.—F. M. Douglass, M. D., Reporter.

HOWARD COUNTY MEDICAL SOCIETY.

The Howard County Medical Society met at Fayette, October 1st, in regular monthly session. Those present were: Drs. Wright, Lewis, Fleet, Bonham, Burgwin, Gallemore, Gentle and Watts.

Dr. Watts presented a case of sarcoma, concerning which he had previously informed the society, and reported the present condition of the patient.

Dr. Gentle presented a case of "adiposa dolorosa."

Dr. P. C. Megee reported a case of absence of the thyroid gland, which was treated by extirpation of the thyroid.

The case against the chiropractics was continued until the next term of court.—C. W. Watts, M. D., Secretary.

LAFAYETTE COUNTY MEDICAL SOCIETY.

The regular monthly meeting of the Lafayette County Medical Society met in the assembly room of the City Hall in Lexington, on the second Tuesday of July. Two sessions were held, one in the forenoon, for the purpose of disposing of the business that came before the meeting, and an afternoon session, which was devoted to the reading and discussion of scientific papers that were presented to the meeting.

The following program was arranged for the occasion, and some of the papers met with a free discussion by all the members:

"Our Physicians' Study Club," Dr. E. A. Hoefer. "Entero-Colitis," Dr. T. B. Payne. "Tetanus," Dr. W. A. Porter. Paper, selected, Dr. John Mann.

The following members, with Dr. Lewis M. Carthrae, the president, were present: Drs. Ryland, Roberts and Payne, of Lexington;

Drs. Ott and Hoefer, of Higginsville; Dr. Fischer, of Alma; Dr. Frank Mann, of Wellington.

Owing to a misunderstanding of the by-laws, relative to a permanent place of meeting, it was decided to have the next regular meeting of the society in Lexington on the second Tuesday of August.—E. A. Hoefer, M. D., Reporter.

MISSISSIPPI COUNTY MEDICAL SOCIETY.

The Mississippi County Medical Society met in regular session at Charleston, August 2d. Present, Drs. A. and S. P. Martin, of East Prairie; Drs. Lynch, Chapman, Howle, of Charleston. Visitors, Drs. John C. Boone and A. Marshall, of Charleston.

Dr. Lynch reported a case of tumor located in the right iliac region. The patient, a child of three years, was suffering at the time with an attack of whooping cough and the parents had given calomel a day or two previous to the doctor's visit. The patient when seen on the first day, had a temperature of 100° and a pulse of 100. The temperature remained between 100° and 102° and the pulse from 100 to 120, for 13 days. The tumor gradually disappeared under purgative doses of olive oil. The case was interesting because of its obscurity and the trouble in making a positive diagnosis. There was a history of possible traumatism, caused by a fall some two weeks before the doctor was called. The history, although complete as to size, location, consistency, duration and cessation of enlargement, was insufficient to make the diagnosis clear. Drs. Boone and Chapman thought it was appendicitis; Dr. Marshall also shared this opinion. Dr. Sam Martin thought it was intussusception. Drs. Lynch and Howle were not positive as to the trouble, but thought it could possibly be of traumatic origin.

The discussion of Dr. Lynch's case was free and comprehensive, showing interest in such cases.

Dr. Marshall reported a case of malarial constipation, in which the usual remedies were ineffectual.

Obscure cases were reported by Drs. Boone and Martin, showing that the diagnosis of iliac tumors is not always plain sailing, and that the typical symptoms of appendicitis are not always present in this affection, an exploratory incision often being necessary to complete the diagnosis.

The applications of Drs. Boone and Marshall for membership were referred to the proper committee.

The society adjourned to meet the first Monday in September.—W. P. Howle, M. D., Secretary.

WEBSTER COUNTY MEDICAL SOCIETY.

The Webster County Medical Society held its regular quarterly meeting at Rogersville, September 15th. Those present were Drs. M. Highfill, W. R. Beatie, Jno. R. Bruce, W. J. Rabenau, T. S. Bruton, E. Trimble, C. H. McHaffie, W. A. Atkins, B. T. Cantwell and A. H. Madry, of Aurora; also the District Councilor, and Dr J. S. Sayers, of Greene County.

Dr. B. T. Cantwell read a paper on "Insanity," dealing with the subject from the general practitioner's standpoint. He recommended isolation and diet or forced feeding in the treatment of such cases. The paper was discussed by quite a number of the doctors present.

Dr. A. A. Atkins reported a case of septicemia.

There was a general discussion on the treatment of typhoid, in the main of which the doctors were agreed.

Dr. A. H. Madry read a paper, entitled "The State's Duty to the Physician," which was well received by the members present, each promising to do his part towards educating the public and creating a sentiment in favor of the State recognizing the importance of the physician.

Adjourned to meet at Seymour in December.—W. R. Beatie, Secretary.

CORRESPONDENCE

To the Editor:

I would be very grateful if any of your readers would send me names or data or biographies of any dead medical worthies of your State for my forthcoming Cyclopedia American Medical Biography; doctors who have done good work outside their own profession in advancing science are also eligible. Above all, I want the man himself, not only dry facts. Yours faithfully,

Howard A. Kelly, M. D.,
1418 Eutaw Place, Baltimore, Md.

SPECIAL ARTICLE

SOCIETY PROCEEDINGS.

The nineteenth annual convention of the National Confederation of State Medical Examining and Licensing Boards met at Hotel Marlborough, Atlantic City, N. J., June 7, 1909.

Dr. Ravogli delivered his address on "The Necessity of a Practical Test for Candidates in the State Examinations."

The report of the Executive Council was read by the Chairman, Dr. N. R. Coleman. Acting upon the recommendations contained in this report, a committee of five, all of whom are members of state boards, was appointed to investigate and report at the succeeding meeting of the Confederation, on the subject of clinical instruction in medical colleges; and provision was made for the presentation of this subject by clinical teachers themselves. The Secretary of each of the state and territorial examining Boards, and of the District of Columbia, were appointed as a Committee of Official Correspondents of the Confederation.

Dr. N. P. Colwell read a paper on "The Need, Methods and Value of Medical College Inspection," following which the report on Standing of Medical Colleges was read by Dr. James A. Duncan.

Dr. J. C. Guernsey read the report of the Examinations Committee. This report was referred to the Executive Council for further consideration, and on the basis of recommendations contained therein the following resolution was adopted:

Whereas, A mixed examination, oral, practical and written, of applicants for medical licensure in every state is important, therefore be it

Resolved, That this Confederation earnestly recommends to the various state boards now restricted as to their methods of conducting examinations, to take proper steps to secure amendatory legislation to enable them so to conduct their examinations.

Under the head of Symposium on Examinations, the following papers were presented:

"Practical versus Theoretical Examinations," by Dr. W. T. Councilman. "The Inadequacy of the Written Examination," by Dr. Edwin B. Harvey. "What Branches or Portions of Branches Should be Included in the Written, and What in the Oral Examinations?" by Dr. J. C. Guernsey. "Is It to the Best Interests of Students and Medical Examining Boards to have Divided Examinations?" by Dr. William Warren Potter. "The Feasibility of Practical Examinations," by Dr. Augustus Korndoerfer. "How Can Practical Examinations be Graded and Recorded?" by Dr. L. F. Bennett.

Dr. M. G. Motter, as a part of the Secretary's annual report, reviewed briefly the work of the sub-committee on the Teaching of Materia Medica and Therapeutics of the Council on Medical Education, A. M. A. The recommendations contained in this report were referred to the Executive Council, and the following resolutions were finally adopted:

Whereas, It is generally recognized that the time available for in-

struction in Therapeutics, Materia Medica and Pharmacology does not suffice for the study of all the known drugs; and

Whereas, It is also recognized that but limited time can be devoted, to best advantage, to acquiring a thorough familiarity with the characters, actions and uses of the important drugs, at the expense of those of doubtful or negative value; therefore be it

Resolved, That the National Confederation of State Medical Examining and Licensing Boards urges upon its constituents the advisability of confining examination questions to the most important preparations of the more important drugs.

Resolved, That it recommends to their attention the report of the Sub-Committee on the Teaching of Materia Medica, etc., of the American Medical Association's Council on Medical Education; and be it further

Resolved, That the President of the National Confederation of State Medical Examining and Licensing Boards be, and he is hereby, authorized and instructed to appoint a committee of three to confer with the Council on Medical Education and to compile and report to this Confederation a list of the more important drugs and their preparations to which the examinations of the constituent boards may be confined, this list to be published in the *Journal* of the American Medical Association as with the approval and endorsement of the Confederation.

The Confederation adjourned to meet on the day preceding the annual convention of the American Medical Association in 1910, at St. Louis.

STATE BOARD QUESTIONS AT THE EXAMINATION FOR LICENSE TO PRACTICE MEDICINE, ST. LOUIS, JUNE 7, 8, 9, 1909.

ANATOMY.

(1) Give gross and minute anatomy of kidney.
(2) Describe minutely the pericardium.
(3) Give origin, ending, branches and relationship of posterior tibial artery.
(4) Describe the hip joint.
(5) Describe the humerus.
(6) Name all structures divided in amputation of thigh at middle third.
(7) Name and describe the second pair of cranial nerves.
(8) Give nerve and blood supply of stomach.
(9) Describe the popliteal space, giving contents.
(10) Name and locate sinuses of dura mater.

BACTERIOLOGY.

(1) What is meant by agglutination? Describe the technique of Widal's test.
(2) Describe the microscopic picture of the plasmodium malariæ of the tertian form.
(3) Describe one method of staining tubercle bacilli and describe the appearance of the bacilli under the microscope.
(4) Describe the tetanus bacillus and give the treatment for tetanus.
(5) Describe the Klebs-Loeffler bacillus and give the reasons for the use of the anti-diphtheritic serum in connection with infections by this bacillus.

CHEMISTRY.

(1) Give formula for magnesium sulphate. How manufactured.
(2) Give formula, tests and method of manufacturing chloroform.
(3) Give differential test for quinine and morphine.
(4) Give formula, method of manufacturing, and antidote of carbolic acid.
(5) Give chemical composition of gastric juice and percentage of each constituent.

GYNECOLOGY.

(1) Describe involution, subinvolution and inversion.
(2) Describe pruritus vulvæ. Give treatment.
(3) Define amenorrhœa, dysmenorrhœa.
(4) Give results of non-repair of lacerated perineum.
(5) Define menstruation.
(6) Describe cystocele and rectocele. Give treatment of each.

JURISPRUDENCE.

(1) What would be the post-mortem findings in a case of poisoning by illuminating gas? Give the method for making the examination.
(2) Give in general terms the present law governing the committing of an abortion. Give the relationship of the physician and the patient as regards their testimony in trials under this law.

(3) What are the essential points which must be covered in writing a will?

(4) What would be the post-mortem findings, and give the tests by which you would prove death by arsenic.

(5) What is the difference between the wound of entrance and the wound of exit in a perforating gunshot wound of the skull?

OBSTETRICS.

(1) Define post-partum hemorrhage. Give usual causes and treatment.

(2) What causes uterine inertia? Give treatment of same.

(3) Give symptoms of threatened abortion. Give treatment of same.

(4) Describe asphyxia of the new born. Give treatment.

(5) When would you administer ergot in labor? When use chloroform? Give dangers of each.

(6) Define hour-glass contraction. Give treatment.

(7) Differentiate hand from foot presentation. Give management of each.

(8) Give symptoms and treatment of extrauterine pregnancy.

(9) Describe version. Give forms and the indication for each.

(10) Describe the fœtal circulation.

(11) Give cause and treatment in prolapsed cord.

PATHOLOGY.

Give pathology in each of the following diseases:

(1) Tuberculous arthritis.

(2) Membranous laryngitis.

(3) Hodgkin's disease.

(4) Define a cyst. Name two principal modes of origin.

(5) Give pathological findings, post-mortem, in chronic alcoholism.

PHYSIOLOGY.

(1) What influence does the contraction and relaxation of the arterioles and arteries have upon the heart's action? Explain this contraction and relaxation.

(2) What is the pulse? What factors enter into its production?

(3) Describe the influence which the absence of the thyroid glands produces upon the general economy.

(4) Describe the composition of the gastric juice.

(5) Describe the formation of glycogen, and give its use in the animal economy.

(6) Describe the composition of the blood, and give, as far as it is understood, the function of each of the component elements.

(7) Describe the physiological properties of muscle tissue, and explain in detail the changes from the normal which occur in the muscular tissue of the heart in one disease of the heart.

(8) Describe the functions of the lymphatic system.

(9) Explain the rhythm of the respiratory movements.

(10) What is meant by muscular sensation, and what is meant by general sensibility.

PRACTICE.

Give etiology, symptoms and treatment in each of the following diseases:

(1) Cerebro-spinal meningitis.
(2) Catarrhal jaundice.
(3) Endocarditis.
(4) Bright's disease. (Acute.)
(5) Acute gastritis.
(6) How would you diagnose gall-stone colic? Give treatment.
(7) Name two forms of stomatitis; give etiology, symptoms and treatment of each form.
(8) Discuss membranous laryngitis.
(9) Discuss intestinal obstruction. (Not less than 200 words.)
(10) Give etiology, symptoms and treatment of paralysis agitans.

SURGERY.

(1) Given a case of acute osteomyelitis of the tibia in a child: What would be the clinical symptoms and what would be the treatment?
(2) Describe in detail the treatment of a case of open oblique fracture of the femur at the juncture of the middle with the lower third.
(3) Describe in detail the symptoms produced by a backward dislocation at the elbow, and a recognized method of treatment which is to be instituted from the time the patient is seen until he is discharged.
(4) Describe in detail the histologic changes in a case of epithelioma of the lower lip; give its clinical course and the recognized surgical treatment for this affection.
(5) Give the symptoms which are observed clinically in a case of tuberculosis of the glands of the neck in a child and describe the treatment.
(6) Differentiate a deep-seated abscess in the popliteal space from aneurysms of the popliteal artery.
(7) Describe the clinical symptoms and explain the causes for their occurrence in a case of acute appendicitis.
(8) Describe in detail the avenues through which a full bladder may be evacuated, and give the indications for choosing the various routes which you have described.
(9) What is a felon? Describe the symptoms which exist in this condition and treatment.
(10) Describe in detail Colles' fracture; give the symptoms which are observable when it exists; give the usual complications which follow unsuccessful primary reduction and give the treatment.

THERAPEUTICS.

(1) Give therapeutic action and dosage and indication for the use of belladonna, and preparations in common use.
(2) Give composition, use and dosage of magnesium sulphate and the common name.
(3) Give source, officinal preparations, therapeutic indications and dosage of ergot.
(4) Name the more important preparations of opium, and their physiological effect, with dosage.
(5) Name various silver salts used in therapeutics with method of use.
(6) Name four important mercurial preparations and their method of use.
(7) Give officinal preparations of aconite, with dosage of same.
(8) Give officinal uses and dose of colchicum.
(9) Name five important bromides, uses and dosage.
(10) Give the source, preparations and therapeutic indications for the use of chenopodium.

BOOK REVIEWS

Pain. Its Causation and Diagnostic Signification in Internal Diseases. By Rudolph Schmidt, Assistant in the Clinic of Hofrat von Neusser of Vienna, Austria. Translated by Drs. Karl M. Vogel and Hans Zinsser. J. B. Lippincott Co., Philadelphia.

Unlike the many small volumes on large subjects, this one in particular, though of but 300 pages, in a most concise and excellent manner conveys much to the reader. Especially is this true in that part allotted to the Gastro-Intestinal Region, in which valuable information is given, brief and to the point.

Dr. Schmidt is known to most Americans who have attended the clinics at the Vienna General Hospital, and is regarded as a thorough, conscientious, hard worker; one can rest assured that earnest consideration has been given to every symptom of pain and signification that he has described.

Progressive Medicine, Vol. III., September, 1909. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, 336 pages, with 37 engravings. Per annum, in four cloth-bound volumes, $9.00; in paper binding, $6.00, carriage paid to any address. Lea & Febiger, Publishers, Philadelphia and New York.

The September volume of Progressive Medicine deals helpfully with four topics of great practical importance. Dr. William Ewart contributes an article dealing with the literature on diseases of the thorax and its viscera, this article considering in detail all the latest advances in our knowledge of tuberculosis. Dr. Gottheil's contribution covers the literature on dermatologic subjects, including syphilis. The recent work in obstetrics is handled by Edward P. Davis, and the volume concludes with a review of the neurologic literature written by Dr. Spiller.

Appendicitis and Other Diseases of the Vermiform Appendix. By Howard A. Kelly, M. D., with 215 original illustrations; some in colors and three lithographic plates. Philadelphia and London. J. B. Lippincott Co. 1909.

The American profession is so well acquainted with this work that it would seem superfluous to outline here the scope of this most complete presentation of the protean diseases of the vermiform appendix. This new second edition has been thoroughly revised by its distinguished author because he has become convinced that a compact résumé dwelling with particular care on the practical side of the subject would better meet the

needs of the great army of general surgeons throughout the country. In its new form this volume on appendicitis represents the standard work of the world on this disease.

Legal Medicine and Toxicology. By R. L. Emerson, A. B., M. D. New York and London. A. Appleton & Co., 1909.

The subject of legal medicine is one which is too little understood and appreciated by the general practitioner and medical student. This book has been written to fill the need for a single volume treating the subject from as practical a point of view as possible, and with special reference to the needs of the busy practitioner who suddenly finds himself confronted with a medico-legal case. In any such emergency, in our belief, this new work will afford immediate and thorough information.

The Treatment of Fractures: With Notes Upon a Few Common Dislocations. By Chas. L. Scudder, M. D., Surgeon to the Massachusetts General Hospital. Sixth Edition, Revised and Enlarged. Octavo volume of 635 pages, with 854 original illustrations. Philadelphia and London. W. B. Saunders Company, 1907. Polished buckram, $5.50 net; half morocco, $7.00 net.

This sixth edition on Fractures and Dislocations, is a most practical and useful book for the general practitioner, as well as for the surgeon. The methods of diagnosis and subsequent management of bone and joint injuries, as promulgated in this volume, are not surpassed by any other author. Its teachings are simple, logical and concise. It is a valuable book and should be in the library of every practitioner of medicine and surgery.

F. B. F.

A Text-Book of Surgical Anatomy. By William Francis Campbell, M. D., Professor of Anatomy at the Long Island College Hospital. Octavo of 675 pages, with 319 original illustrations. Philadelphia and London: W. B. Saunders Company, 1908. Cloth, $5.00 net; half morocco, $6.50 net.

Campbell's Surgical Anatomy is fortunate in bringing out the anatomic facts of special surgical interest. In the first chapter of surface anatomy the important anatomic landmarks are most beautifully shown in the cuts and description. The cuts throughout the work are remarkable for their clearness.

Among the most remarkable are those showing the cranial contents. These are so plain that one who is familiar with the principles of anatomy may read at a cursory glance.

Among other noticeable illustrations are those relating to the anatomy of the neck, the once forbidden ground of the surgeon, the most difficult part of the practical anatomy of the human body.

The practical surgery embodied in the work is up to date, concise, and so plain that he who runs may read.

This book should find a place in every doctor's library, whether he be surgeon or practitioner. It should hold the place in surgery that is held in medicine by Butler's Diagnostics of Internal Medicine.

N. F. T.

ARTICLES APPROVED BY THE COUNCIL ON PHARMACY AND CHEMISTRY.

SEXTONOL.

A mixture of tonols in tablets of 0.3 Gm. (5 grains), each tablet being said to contain lime tonol, 0.13 Gm. (2 grains); sodium tonol, 0.13 Gm. (2 grains); iron tonol, 0.00033 Gm. (1/200 grain).

Actions, Uses and Dosage.—See Glycerophosphates. Manufactured by Chemische Fabrik auf Actien, vorm E. Schering, Berlin (Schering & Glatz, New York).

SIDONAL.

Sidonal $\begin{matrix}/CH_2CH_2\backslash \\ \\ \backslash CH_2CH_2/\end{matrix}$ $NH.2C_6H_7(OH)_4(COOH)=C_{18}H_{24}N_2O_{12}$, is the normal salt of piperazine and quinic acid.

Actions and Uses.—Sidonal is recommended as a uric acid solvent in gout, neurasthenic, etc. Dosage.—1 to 1.3 Gm. (15 to 20 grains) 5 or 6 times a day, dissolved in water. Manufactured by Vereinigte Chemische Werke Actiengesellschaft, Charlottenburg (Victor Koechl & Co., New York).

SODIUM CACODYLATE.

Sodium cacodylate $(CH_3)_2AsO.ONa+3H_2O$, is the sodium compound of cacodylic acid $(CH_3)_2AsO.OH$, a dimethyl derivative of arsenic acid, $AsO(OH)_3$.

Actions and Uses.—The action of sodium cacodylate is similar to other arsenic compounds, but it is much less toxic than the ordinary preparations of arsenic and is also less apt to cause undesirable side effects. This superiority is due to the slow liberation of the arsenic ion in the body. The cacodylate si particularly recommended in obstinate psoriasis, pseudoleukemia, diabetes, anemia, chlorosis, tuberculosis, malarial cachexia, etc. Dosage.—0.025 to 12 Gm. (½ to 2 grains) in pills, hypodermically or by enema.

SODIUM CINNAMATE.

Sodium cinnamate, $C_6H_5.CH:COONa=NaC_9H_7O_2$, is the sodium salt of β-phenyl-acrylic (benzene-propenoic) acid, $C_6H_5CH:CH.COOH$.

Actions and Uses.—Balsam of Peru, cinnamic acid and sodium cinnamate are recommended by Landerer for the treatment of phthisis, the drugs being injected intravenously under strict aseptic precautions. The effect is referred by him to an inflammatory reaction, localized about the tuberculous foci and leading to cicatrizations. He records very favorable results in well-selected cases, and other clinicians have also reported some successes, although the treatment fails very often. The synthetic cinnamate is preferred on account of its purity. Dosage.—0.001 Gm. (1/60 grain), gradually increased to 0.02 Gm. (1/3 grain), in 1 to 5 per cent. solution, injected intravenously thrice weekly for long periods (3 to 18 months).

STYPTOL.

Styptol, $(C_{12}H_{13}O_3N)_2C_6H_4(COOH)_2$, is the normal phthalate of cotarnine, an oxidation product of narcotine, similar to hydrastinine.

Actions and Uses.—Its action resembles that of stypticin. Compounds with phthalic acid are said to have especial hemostatic properties. Styptol has been recommended in uterine hemorrhages. Dosage.—0.065 Gm. (1 grain) in sugar-coated tablets, 3 to 5 times daily. Manufactured by Knoll & Co., Ludwigshafen a. Rh. and New York.

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ORIGINAL ARTICLES

INTERNAL OR DIRECT SPLINT IN THE TREATMENT OF FRACTURES.*

By Herman E. Pearse, M. D., Kansas City, Mo.

The revelations of the *x*-ray have proven to us what post mortem findings had led us to suspect; we are never, almost never, getting the ends of two bones in good apposition by extension, counter-extension and splints. The work of the masseur has proven that we kept the parts too long immobilized. We too often have had stiff members. These have been the heritage of the old system of "setting" fractures—pain, long loss of use, crooked parts, poor use of mended members, sometimes loss of reputation and occasional damage suits, and the more the *x*-ray is educating the public, the oftner comes the protest against the result.

A large number, perhaps a majority, of the suits filed against doctors are from poor results after fracture "setting."

The following are insurmountable obstacles to exactness and, hence, to perfection of results under the external splint method:

1. It is impossible to see the ends of bone, hence impossible to secure accurate apposition of ends.

2. Breaks are never so exactly transverse as not to slip sidewise upon occasion.

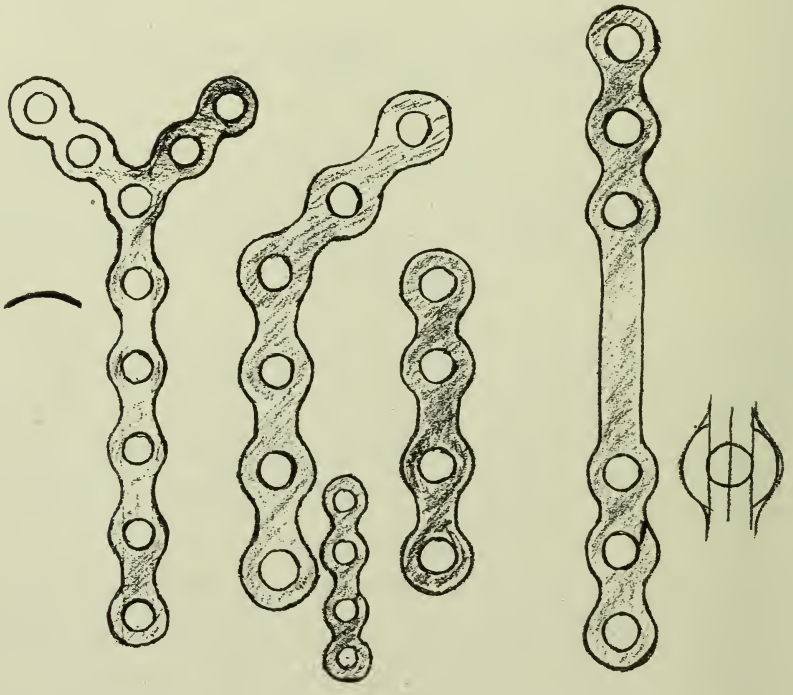
3. Portions of fascia and muscle will become misplaced and engage between the ends of the bone.

*Read in the Surgical Section, Fifty-second Annual Meeting, Missouri State Medical Association, Jefferson City, May, 1909.

4. The hemorrhage from broken bones does not stop until the parts are packed with a blood clot that must be absorbed and whose presence increases the stiffness and uselessness of the mended member.

5. External splints applied over the parts, separated from the actual broken bone by muscle, fat and skin cannot hold the parts in more than indifferent position, and then only by exerting undue pressure upon the soft parts.

6. Too often one fragment of the broken bone is too short to afford proper bearing for the splint and thus maintain the axis of the bone in its proper position.



Forms of splints used in the treatment of fractures.

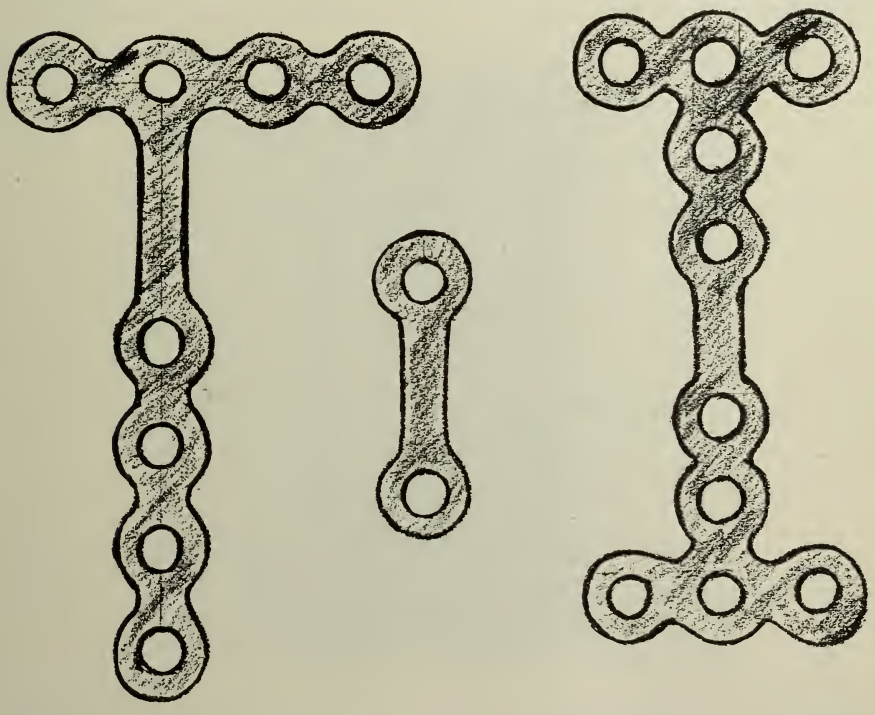
7. Every factor of the external splint process used to maintain apposition, splints, bandages, pressure, extension and rest; all these tell against nutrition.

8. Early motion is the panacea for stiffness and loss of function must be sacrificed to the need for bony apposition.

In view of these reasons for imperfect results, the external splint method has been recognized as faulty, and I am desirous of presenting to you a much better method, which is applicable to all recent fractures whenever perfect aseptic technique can be carried out, *i. e.*—The incision of the soft parts and the application of a steel splint or splice fastened with screws directly to the replaced fragments of the bone in such a

manner as to maintain perfect apposition. If the fragment is a condyle or other projection it can sometimes be simply fastened by screws, nails or staples. In support of these measures I offer the following evidence:

1. Text book, "The Operative Treatment of Fractures."—Lane.
2. Three book articles: "The Modern Treatment of Fractures by Means of Direct Internal Splintage."—International Clinics, Vol. III. "Operative Surgery."—Burghard, Vol. I., page 531-551. "Operative Treative of Simple Fracture."—Lane, Surg. Gyn. and Obs., April, 1909.
3. Observation in hospital practice.
4. Successful cases in my own practice.



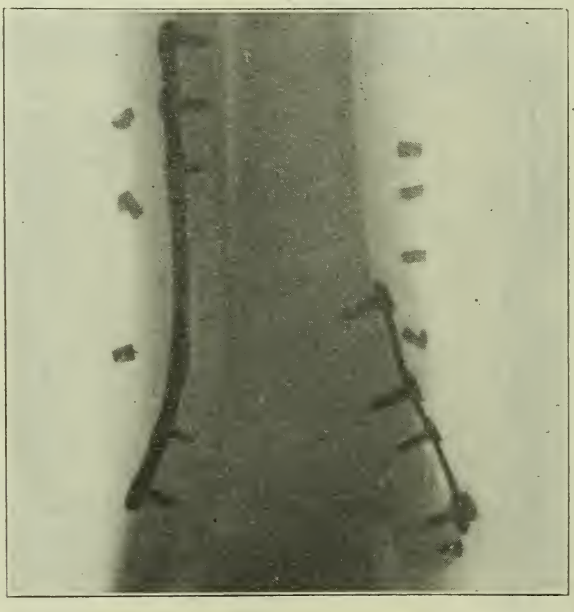
Forms of splints used in the treatment of fractures.

As to number one: The text book is "The Operative Treatment of Fractures," by Wm. Arbuthnot Lane, Esq., F. R. C. S., of London, published by the Medical Publishing Company of London. I quote the following passages from this book:

"The operative treatment of simple fractures is comparatively easy in the majority of cases, and if due care be taken and reasonable skill be exercised the risk is practically nil.

"In certain small proportion of cases the bone may be too friable, too thin, or too much broken up, and the surgeon may therefore be unable to restore it completely to its original form. Even in these circumstances he can almost always obtain a much better result by operating than by any other form of treatment.

"Age is no barrier to operation; indeed, in old people an operation is often more imperatively called for than in vigorous life, for the reason that prolonged recumbency in old age is a very serious matter, often entailing of necessity a fatal result. The shock sustained from surgical interference is trivial, old people bearing operations well. Alcoholic patients, in whom the soft parts about the fracture have been very severely damaged as a result of direct violence, incur more risk from the injury than healthy ones, so it follows that the additional risk consequent on operation in these cases is naturally greater than in the normal subject, not because of the operation but because of the conditions in which the operation is performed. In other words, alcoholism and direct injury to



soft parts increase the danger of fractures and also add to the risk of their operative treatment. I have found the bones of chronic alcoholics to be frequently thin and friable.

"Many complaints have been made by surgeons who have failed to obtain good results by operation. For example, some have said their screws would not hold and others that they could not obtain union. These failures are due to the fact that the very moderate cleanliness necessary to obtain a good result in ordinary operations is quite insufficient to meet that required when a large piece of metal, whether steel or silver, is left buried in the wound.

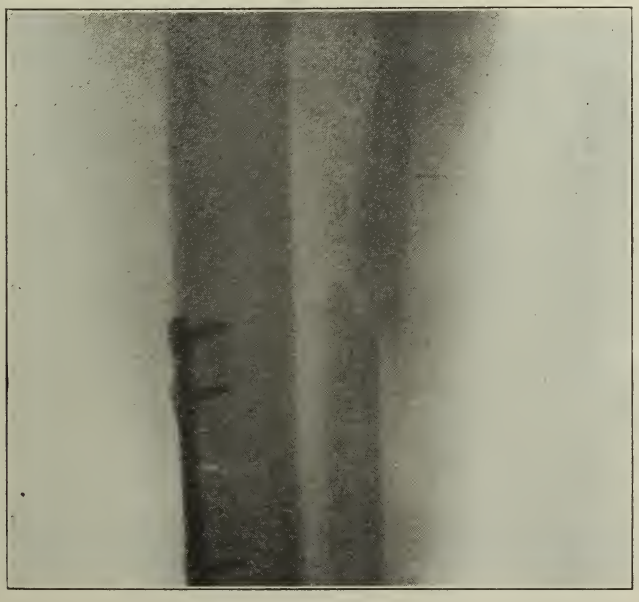
"If the surgeon has not succeeded in such a simple operation as wiring fractures of the patella without killing or permanently disabling many of his patients, he had better bring himself to believe that the results of the generally accepted methods of treatment are excellent, and that any statments to the contrary are exaggerated or imaginary, and leave

operations on recent fractures alone, since they may test the methods and skill of the operator to the utmost.

"In performing these operations, not only must you not touch the interior of the wound with your hands nor permit the patient's skin to do so either, but you must never let any portion of an instrument which has been in contact with your skin or with that of the patient touch the raw surface. All sponges must be held in forceps and applied to the wound in that manner. They should not be handled in any way previous to being used.

"After an instrument has been used for a length of time, or forcible, it should be recalled or placed in a germicidal solution.

"I have occasionally seen beginners employ the handle of a knife or dissecting forceps to separate adherent parts, or to displace some structure,



instead of using the particular instrument made for that purpose. I need not remind you that this must not be done on any pretext whatever.

"It is probably unnecessary to say that no germicidal or other liquid should be introduced into the wound.

"The details of the operation are as follows:

"Get the skin thoroughly clean. This may sometimes take several days, as the thick, indurated epidermis of the foot and knee is often difficult to remove. I find large moist compresses with careful scrapings most effective in enabling one to get rid of suspicious material. When this has been properly done a germicide should be applied to render the skin as clean as possible.

"Choose a situation for your incision which involves a minimum chance of damage to important structures and a maximum advantage from

the point of view of accessibility. Do not hesitate to make the incision of a length sufficient to enable you to deal effectually with the fragments. There is no greater mistake than to exaggerate the difficulties of the operations by employing an incision which is not sufficiently long to permit of easy access to and ready manipulation of the fragments. Its length in no way increases the risk the patient runs, but usually adds to his safety, since it enables the surgeon to deal with the fragments more readily.

"Having made the incision, exclude the skin of the patient from contact with the wound. This can be done effectually by attaching sterile cloths to the cutaneous margins of the incisions by forceps. These are made in several sizes.



"The fragments are exposed and examined, and when all clot and material intervening between them have been removed they are brought into accurate apposition. To do this much traction may be necessary, combined with the leverage action of elevators and the approximating influence of powerful long-handled forceps. The long forceps I employ are very powerful and are made with a limited grasp to facilitate their use.

"If there be any bleeding it is effectually dealt with by strong compression forceps long enough to allow that portion of the handles which have come into contact with the fingers to protrude beyond the areas of the wound. Their grip is sufficiently firm to occlude the vessels if they are kept on for a short time, and so the necessity for a ligature is obviated."

Generally speaking, the screw is far the most efficient and most powerful means by which the fragments can be retained immovably on one another. Remember in gauging the size of the drill you intend to employ in drilling the hole for any particular screw that the calibre of the barrel of the screw is much larger than that of the thread, and that an aperture in dense bone which readily admits the thread may be much too small for the barrel, and if the screw is driven into it the bone may be hopelessly comminuted.

I have arranged with the manufacturers to cut several gross of screws sizes, 4, 6 and 8 and lengths ⅜, ½, ⅝, ¾ and 1 inch with the



screw threads entirely to the head, having no body or barrel at all. The drills and screwdrivers should be of sufficient length to avoid any risk of the fingers touching the wound.

If wire be employed, it should be pure, and before use it should be raised to a red heat in a flame and cooled slowly, by which its flexibility is increased very greatly.

Too much care cannot be taken to bring the edges of the skin together with perfect accuracy, and in performing this part of the operation any infection of the wound by the dissecting forceps must be carefully avoided.

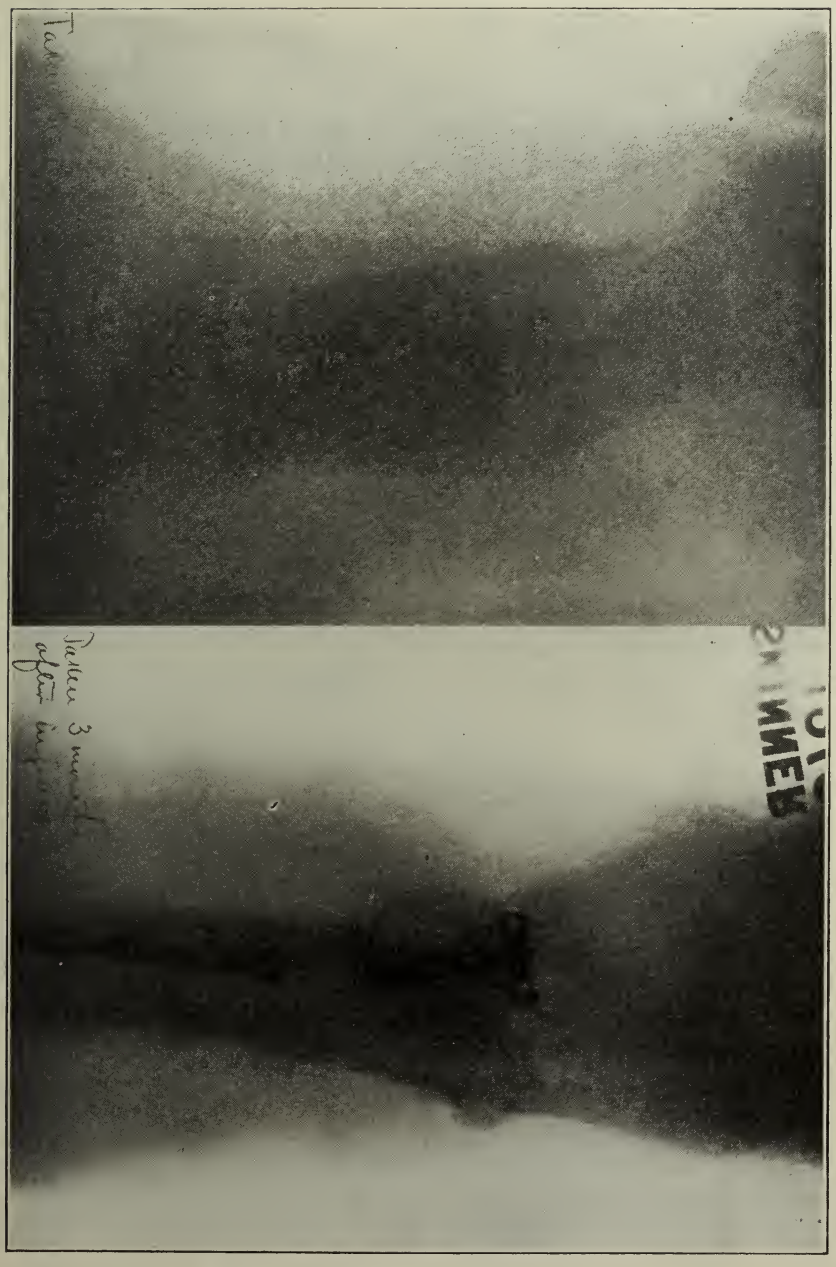
If much oozing is expected, drainage may be employed for a day or two with drainage.

Some form of splint, etc., is usually required after the operation, it may be impossible to employ any support in such circumstances the surgeon should render the junction as secure as possible to meet any possible eventuality.

As to number two, The International Clinics, Vol. III., 1908, published by Lippincott & Co., contains an article by Edred M. Corner, M. G. F. R. C. S. (Eng.), entitled "The Modern Treatment of Fractures by Means of Direct Internal Splintage." I quote as follows from this article:

"The treatment of fractures has always been a department of surgery encompassed with many difficulties—the despair and perhaps the scandal of many practitioners. Of recent years, in particular, the use of skiagraphs has laid bare before the people in general and ourselves in particular, the fact that under the present methods of treatment a broken bone is rarely if ever restored to its original shape. Perhaps a skiagraph taken some time after the fracture is shown to a jury and the medical man forced to pay damages; it may be for no fault of his own. The public have a right to expect a fairly correct diagnosis in a case of fracture; and the use of the *x*-rays is most helpful in arriving at such a diagnosis. It is therefore foolish to neglect such help when it can be obtained; but a man who breaks a bone has no right to expect a perfect result and to complain if he does not regain every ability which he possessed prior to the injury. If he smashes his motor car badly, it may be and usually is impossible to repair it so well that the engine, with no new parts, is as good as if no accident had happened to it.

"First of all, what are the general features of this treatment by splintage? Splints are applied to the outside of the injured part in order to keep it at rest, and to hold the fragments of the broken bone together and in the proper position in which the fragments are to unite. Splints easily accomplish the first condition,—keeping the part at rest. But they are placed along the outside of the limb and are separated from the bones they are to hold in apposition by skin, fat, muscle, extravasated blood, etc. Moreover, the splints cannot be applied tightly without interfering with the blood supply of the part, perhaps cutting it off altogether and causing gangrene. In consequence they must be bandaged on with tightness just short of interfering with the blood supply, with the results that the fragments of the broken bone can move upon each other within the splints. The force of this argument will be appreciated if an attempt is made to fix in good apposition two portions of a broken walking stick inside a pillow by means of splints bound lightly along the outside. The attempt is childish. Splints which are placed along the outside of the limb may be termed external splints. And the method, as the splints are not placed directly on the fragments, may be called indirect splintage. On the whole the clinical results of this rough and inexact methods are good. But, like everything else in this world, the method has its limitations; so that it must not be expected to do everything. Considering the ancient origin and lineage of this method of indirect treatment fo fractures by external



splints, it is a fair question to ask if modern surgery has devised anything to supplement it. The answer is 'yes.' Modern surgery can supplement it by the method of applying 'splints' directly to the fragments of the broken bone; the splints being internal and the splintage direct instead of external and indirect. So that the ancient method was indirect splintage by means of external splints; and the modern method is direct splintage by means of internal splints.

"Naturally internal and direct splintage can be accomplished only by means of an operation. Hence the modern method is a corollary of the advances of modern operative surgery. The internal splints are silver wires, silk, plates, screws, etc., each different fracture requiring different treatment. The operations are often long and difficult, the technical work which the surgeon has to do often being extremely intricate."

Dr. James P. Warbasse of Brooklyn, speaking of fractures in the March 13, issue of the *J. A. M. A.*, says: "The *x*-ray has shown that an accurate replacing of fragments is rare. It is unfortunate that the public expects a perfect piece of joining from the surgeon, who works on an unseen structure covered by muscles, vessels and nerves, which often make it even impalpable. When we secure a perfect functional result we permit the idea to prevail that we have done a perfect piece of joining. Let us not forget that a perfect functional result is compatible with an imperfect piece of jointing. In most of the complete fractures of long bones of the leg the apposition is far from correct. Open operation is the only method by which they can be made correct. A restoration of function is the thing we aim at. But we should disabuse the public mind of the idea that that requires accurate apposition.

"Many times I have put up fractures of the tibia with the greatest care and been confident that the apposition must be perfect, only to find on *x*-ray examination glaring failures of apposition. Still good functional results were produced in these cases, but had the patients seen the *x*-ray plates we may be sure that they would have been fearful lest they never again be able to use their limbs. This is one of the values and dangers of the *x*-ray—valuable to the surgeon and patient for the help it affords in permitting the surgeon to know the condition of the bones, dangerous to the surgeon and the patient for its misleading effect on the mind of the latter."

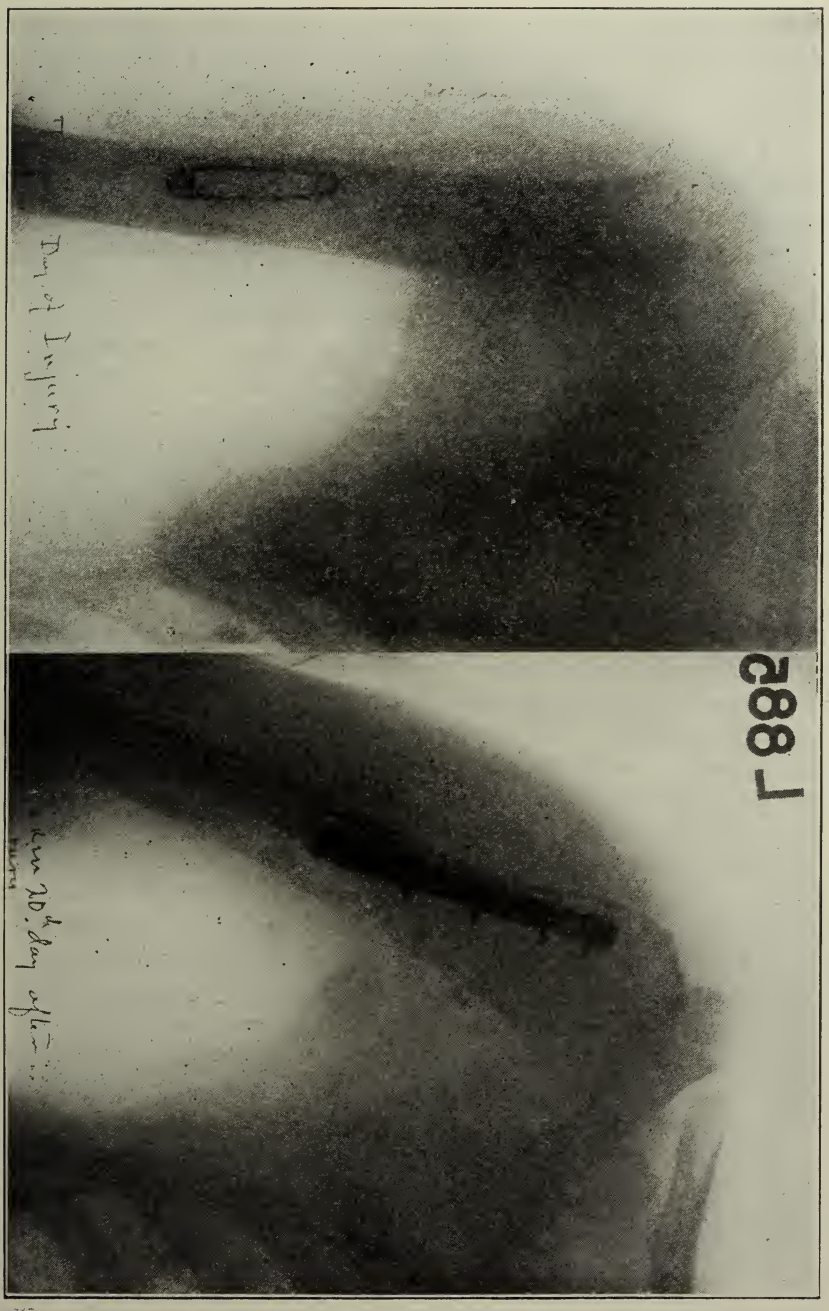
Then he concludes as follows:

"1. The perfect reduction of fractures of long bones is different and often impossible without operation.

2. Without the *x*-ray we are always in the dark as to the actual conditions present.

3. Reduction with mathematical precision is not absolutely essential for a good functional result."

Number three.—My own observation in hospitals. As my attention when visiting a hospital is usually attracted first by clinics devoted to abdominal surgery, I have probably missed many of the cases which


Prof. Injury
20th day after
L 882

I might have observed. I often noticed clinics posted as "Operation for Fracture," and at last my curiosity led me to observe the technique of the operation. I had read the articles written by Mr. Lane, my attention having first been drawn to them by Dr. Broderick, a former student at the Children's Hospital in Great Ormund street, London, and now physician to the children's department of St. Anthony's Home and to St. Luke's Hospital. Mr. Lane has been treating most fractures by this method for about fifteen years, and has reduced several hundred of them with uniform good results, and all the hospital surgeons of England and Scotland have adopted it to a greater or less extent. I saw many cases of simple and of compound fractures, some of them comminuted, treated by the open method. The incision is long and free; the bone is well exposed, due care being exercised in placing the incision to do little violence to the anatomy of the part. The bone is therefore approached from whatever side offers the simplest avenue of approach. The bone is seized by strong forceps, and the fragments are closely fitted together under the eye of the surgeon; every portion of the break is made to fit accurately. No further oozing occurs from broken bone ends. Blood clots in the soft parts are carefully wiped away. Any fragment of periosteum or fascia that may have been displaced is placed in its proper relation. From the supply at hand taken clean and boiled from the sterilizer, the surgeon selects one splice or internal splint that fits the part and secures it firmly. More than one can be used if desired. These splints are made from fine, malleable, steel strips, ground out, shaped, smoothed and polished by a machinist and screw holes made at convenient distances. They may be made of silver or other material if desired, but steel answers all purposes. Many of these shown to-night were made by myself, and can be made by anyone having some mechanical skill, with an emery wheel in a short time. After fitting the splint carefully the holes are drilled into the bone to receive the screws. These are short, and are intended to be received into the proximal impact of bone only. The narrow splint and the short screws are recent modifications. I saw fractures treated in this way in Guy's Hospital and in St. Thomas Hospital, London, and heard of them in several other hospitals. I saw the old square plate fastened by four screws, one at each corner, used in Edinborough Royal Infirmary by Mr. Thompson. I never heard of any bad results in the hands of a good surgeon who followed Mr. Arbuthnot Lane's technique, as quoted in this paper from his book.

The splint may not be retained but it usually is. If not, a sinus forms, or there is some irritation, and the surgeon cuts down and removes the splint through a small incision.

Case in practice. Mr. W., age 25 years, was shingling a house when he fell from the roof, some thirty feet, landing upon a pile of rock. He sustained a severe fracture of the humerus at the surgical neck. The arm was freely movable the site of fracture, with much crepitus. There was two inches of shortening. His physician, Dr. W. E. Mabry,

recognized the serious nature of the injury and assured the friends of the man that under ordinary treatment there was little to hope for from setting, as the break was a bad one, very near an important joint, and the soft parts badly bruised. He requested the assistance of a surgeon. I saw the case with him soon after the injury and explained to them the need of open operation. They at once consented. An *x*-ray negative was taken by Dr. Edward Skinner that afternoon, and the patient removed to St. Luke's Hospital with a first aid splint in place.

Operation was done next day 10 a. m., 24 hours after injury. The incision is seen to pass along the anterior aspect of the shoulder and gave easy access to the broken bone, the ends were forced into close apposition and held by a splice with five screws. As there was much bruising and laceration of tissue occasioned by the thirty-foot fall a drainage tube was placed and left twenty-four hours, the soft parts were closely sutured down. Healing was by primary union. After the fifth day he could put on coat and after a week left the hospital. A short external splint, five inches long, was bound to the inner aspect of the arm, but all joints were allowed full motion. The arm was carried in a sling.

Technique. *Skin Preparation:*

1st. Soaked one hour under soap poultice.
2d. Scrubbed with soap and water.
3d. Rinsed with sterile water.
4th. Washed with alcohol.
5th. Washed with ether.
6th. Washed with 1-2000 bichloride.
7th. Done up in sterile pad to remain until operation time.
8th. At time of operation this was repeated.
All operators and assistants wore sterile rubber gloves and face mask.
All tissue and sponges were handled by forceps.
Sutures were of catgut, buried. Skin was held by metal clips.
Drainage, rubber tube twenty-four hours.

At the end of the three weeks from the day of injury, the patient went to work as a steam fitter's helper and is working steadily. There is no shortening no stiffness and the condition of the bone is shown by *x*-ray.

The above is a type of many successful cases. There has been one amputation, and three deaths from infection within my knowledge. All the deaths came from persons careless of methods or unskilled in sterilizing the field of operation, the hands, splints and instruments. Bone will not resist slight infection. Unless a skillful surgeon can operate in a clean operating room, better not operate. There is no need for hurry, as the patient does not die of ununited fracture. There is much need of care as patients do die of infection. Fractures that can be fairly well held in apposition by external splint and bandage should not be operated upon. Photographs of splints in position and of splints used are appended.

A REPORT OF ELEVEN CASES OF EPIDEMIC MENINGITIS TREATED WITH FLEXNER'S SERUM.*

By D. L. Harris, M. D., St. Louis.

Much has been written within the last two years concerning the use of serum in the treatment of epidemic meningitis. In this country the serum prepared by Drs. Flexner and Jobling has been employed with marked success. While at the present time it may be definitely affirmed that the death rate has greatly diminished following its use, there are many problems connected with its administration which can be settled only after a very large number of carefully recorded clinical and laboratory data have been collected.

Dr. Flexner's work on the production of this serum was begun during an outbreak of epidemic meningitis in New York City, in 1904 and 1905. At this time there were recorded some four thousand cases, with a mortality of about 85 per cent. A commission, of which Dr. Flexner was a member, was appointed to study this disease and seek some means for lessening its terrible mortality. The result of Dr. Flexner's work was the production of a specific serum.

In brief, the serum is prepared by injecting a horse with meningococci, first subcutaneously, then intravenously, and lastly with an autolysate; the doses being gradually increased and the process involving several months. Sometime later, the horse is bled and the serum is secured in much the same manner as in the preparation of diphtheria antitoxin, and put up in small vials each containing 15 c.c.

About a year ago Drs. Flexner and Jobling collected and analyzed over four hundred cases in which the serum treatment had been used. A brief reference to some of their findings may be of interest. The largest percentage of recoveries occurred in patients between five and ten years of age, the mortality in these cases being only 11.4 per cent., against an average mortality of 70 or 80 per cent. before the use of the serum. As would be expected, the mortality rate was found to depend very largely upon the duration of the disease at the time of the initial injection of serum. Thus, of the cases treated on or before the third day of the disease, the mortality was 16 per cent.; of those treated between the fourth or seventh day, there was a mortality of 23.8 per cent.; of those who did not receive treatment until the seventh day, or later, the mortality was 35 per cent. In 25 per cent. of those who recover this occurs by crisis. One of the most striking results of the serum treatment has been the remarkable freedom of the convalescents from complications and sequellæ.

Recovery from cerebrospinal meningitis was often more to be

*Read in the Medical Section, Fifty-second Annual Meeting, Missouri State Medical Association, Jefferson City, May, 1909.

feared than death itself. Its sequellæ include blindness, deafness, idiocy and various forms of paralysis. In some epidemics of the past as many as 90 per cent. of recoveries have been accompanied with some permanent impairment. In the four hundred cases analyzed by Drs. Flexner and Jobling deafness was noted seven times, blindness and deafness once, mental impairment once and choriditis once. These authors conclude: "It is our belief that the analyses of histories of cases of epidemic meningitis which have been presented in this article furnish convincing proof that the antimeningitis serum, when used by the subdural method of injection, in suitable doses and at proper intervals, is capable of reducing the period of illness; of preventing, in large measure, the chronic lesions and types of the infection; of bringing about complete restoration to health, in all but a very small number of the recovered, thus lessening the serious, deforming, and permanent consequences of meningitis, and of greatly diminishing the fatalities due to the disease."

Just what constitutes "suitable doses" and "proper intervals" cannot at present be fixed absolutely. A much larger number of cases with careful observation and study must be recorded before fixed rules can be laid. To this end, Dr. Flexner is supplying the serum for those cases in which careful clinical and laboratory records can be made.

When the serum was first employed the dosage was from 5 to 10 c.c. and often this was given subcutaneously. Experience has shown that larger doses must be given and that these must always be administered subdurally. It is customary to administer 30 or even 45 c.c. as soon as the diagnosis can be made and this amount is given even though a less quantity of cerebrospinal fluid has been withdrawn. No ill effects have been noted following the injection of this amount.

It is advisable to repeat the injection daily for at least three successive days, giving 30 c.c. each day after the first. After this we are in the habit of waiting several days to note the effect. Upon the first indication of a return of the symptoms, the injections are resumed.

Immediately after each withdrawal, the cerebrospinal fluid is carefully examined for the presence of diplococci, and as long as these are found, it is my belief that the serum should be continued. It is very rare, however, that we have been able to discover the organism after the third injection and often they disappear completely after the first. Another striking proof of the value of the serum is that in no case have we been able to cultivate the organism after the first injection of serum.

I have had an opportunity this spring to observe the results of the serum treatment in sixteen cases of cerebrospinal meningitis. Of this number two terminated in death, nine have recovered, and five are still under observation or treatment. Of those who recovered, only one presented any permanent impairment—deafness in a child.

Of the five under observation, two have normal temperature and the physical signs of the disease have almost disappeared. The condition of the remaining three is still serious and it is at the present time impossible to make a prognosis. One of these is now suffering from a relapse.

Ten of these cases were treated at the City Hospital. Five have occurred in the private practice of physicians in St. Louis, and one in East St. Louis.

I will not burden you with a minute recital of the course of each case, but will give a brief review of such of them as illustrate most strikingly the success of this treatment. I wish to acknowledge my indebtedness to the physicians in the City Hospital and to Drs. Elsworth Smith, Walter Baumgarten and W. E. Wiatt, for records in these cases.

Case 1. Mrs. L. A. S. Age 61. On March 17th she complained of sore throat but continued with her usual work. At midnight she awoke with a severe chill, followed by vomiting and later purging. The following morning her temperature was 100.6 and she developed severe headache and pain in the back of the neck.

At noon she was drowsy with a temperature of 106. She was first seen by her physician, Dr. Walter Baumgarten, at 2 p. m., at which time her temperature was 105.4; pulse 116; resp. 130. She complained of severe headache and pain in the back and neck. The neck was not rigid or painful when manipulated. Kernig sign was not present. A small petechial rash was noted on the chest, both front and back. Shortly afterward this rash extended to the neck and arms.

At 8:30 p. m. of the same day she was comatose; pupils contracted. The neck was rigid and Kernig's sign marked on both sides. Patellar and plantar reflexes were absent. Leucocyte count 28,600.

At 11 p. m., 30 c.c. of turbid cerebrospinal fluid was withdrawn and 30 c.c. injected. This fluid contained polymorphonuclear leucocytes and numerous intracellular diplococci.

The following morning at 9 o'clock she was rational. Her temperature dropped to 99. The hypersensitiveness had disappeared. Leucocyte count, 14,000.

The petechial rash was marked all over the trunk and upper and lower extremities. On the evening of the same day patellar and plantar reflexes had returned.

At 10 p. m. a lumbar puncture was made but no fluid obtained. 30 c.c. of serum injected.

The next morning patient felt greatly prostrated. Her mental condition had entirely cleared. The signs of meningitis had greatly diminished, and the leucocyte count had dropped to 8,000. No fluid was obtained from a lumbar puncture but 30 c.c of serum were injected.

Except for the tremendous prostration, the patient felt very comfortable. Pulse irregular, and there were other evidences of myocarditis. Recovery from this prostration was slow but steady. The recovery was complicated by an effusion in the right knee, which, however, gradually disappeared. There was at one time for a period of two or three days slight deafness. This disappeared and she suffered no other complications.

Case 2. R. W., colored girl, age 17 years. Was taken ill, four days previous to admission, with a severe chill accompanied by severe head-

ache and aching pains in back and limbs. Two days later she vomited. On admission she had a temperature of 103.4; pulse 124; resp. 32.

The day following admission opisthotonos had appeared. Kernig sign on the right. Left knee jerk absent. Pupils reacted sluggishly to light. Sensorium was somewhat clouded. Spinal puncture was made and 41 c.c. cloudy fluid withdrawn, in which were found intracellular diplococci in mederate abundance. Leucocytes, 17,000.

On the following day 57 c.c. fluid withdrawn and 30 c.c. serum injected. Temperature dropped steadily. The sensorium was much clearer and the rigidity in the neck was less marked. Two days after the initial injection the temperature reached 99.4. The retraction of the head was greatly diminished and the patient seemed improved in every respect. The patient's temperature reached normal on the third day following the first injection and her improvement was constant.

She was discharged recovered on April 13th.

Case 3. W. R., colored male, age 2 years. This patient, apparently well until April 21st, was suddenly seized with convulsions, complained of intense headache and was brought to the hospital on the evening of the 22d. Examination showed rigidity of the neck muscles, extreme hypersensitiveness, a temperature of 104°, pulse 140, and respiration 40. Kernig's sign was absent. A lumbar puncture was made and 15 c.c. of turbid spinal fluid were withdrawn, and 15 c.c. of Flexner's serum injected. Diplococci were found in the spinal fluid.

The following day 40 c.c. of spinal fluid were withdrawn and 45 c.c. of serum injected. The temperature during the day dropped from 104.2° to 102° and on the 24th it reached 98.6°. The improvement in the physical condition corresponded to the rapid fall of the temperature.

On the 25th the child played in bed and stood up and to all appearances had entirely recovered. He was discharged April 29th and recovered.

Case 4. H. S. Patient is a little girl two years old. The attack began March 14th, with nausea and vomiting. The following day she complained of tenderness and sensitiveness on being moved.

On the third day the head was retracted and there were a few petechiæ over the throat and trunk. On admission March 20th, six days after the onset, her general condition seemed good. The head was drawn back and the spine rigid. There was general hypersensitiveness. Kernig sign present.

There were scattered petechial hemorrhage over the abdomen and thorax. Leucocyte 25,600. 50 c.c. of milky spinal fluid were withdrawn and 45 c.c. of serum injected. Diplococci present.

On the afternoon of the following day she was very much improved. Spastic condition of the neck and back lessened. 30 c.c. of serum were injected after the withdrawal of the 30 c.c. spinal fluid. Her temperature had dropped from 103.5 to 100.

On the following day 69 c.c. of fluid withdrawn and 15 c.c. of serum injected. Patient continued to improve until the fifth day of admission,

when the temperature suddenly rose to 104° and a scarlatinal rash appeared over the body.

It is a question whether this was the result of the serum or whether it was a true attack of scarlet fever.

A few days later her temperature had dropped to 99°, and her recovery was complete and uneventful. She was discharged April 9th, "recovered."

Case 5. L. M. A well-developed, well-nourished boy, 15 years of age. History previous to onset negative. He was apparently well until the morning of March 6th, when he awoke with a severe frontal headache, following a restless sleep. He became semiconscious, and alternating periods of restlessness and drowsiness. On admission he was stuporous; if aroused he became very irritable and exhibited marked hypersensitiveness. His neck was retracted and rigid. Kernig's sign present on both sides. Knee jerks absent. Herpes labialis. Leucocyte count 17,000. The cerebrospinal fluid (30 c.c. withdrawn) was cloudy and microscopical examination showed the cells to be polymorphonuclear, with a small number intracellular, Gram-negative diplococci; 30 c.c. of serum injected. On the following day his physical condition was unchanged. Mentally, he appeared somewhat clearer. He resisted so strongly against the spinal puncture that no serum was injected at the first attempt; 72 c.c. of fluid withdrawn. On the second day 60 c.c. of fluid withdrawn and 30 c.c. of serum injected. His mental condition continued to improve and in the afternoon he appeared rational. On the 10th (fourth day) he was much improved physically and talked rationally. Reflexes unchanged since admission. Rigidity of neck lessened. 58 c.c. of fluid removed and 30 c.c. of serum injected.

March 11th. No improvement over yesterday. 40 c.c. of fluid withdrawn and 30 c.c. of serum injected.

March 12th. Condition unchanged. 47 c.c. of fluid removed and 30 c.c. of serum injected. On the 14th his temperature rose to 103.6. The head was more retracted and his general condition was not so good. 51 c.c. of fluid withdrawn and 30 c.c. of serum administered. Sensorium clear. Leucocytosis not increased (11,000). It was then decided to discontinue the serum. On the 15th, 60 c.c. of fluid were withdrawn. During the following days his temperature steadily dropped to normal. His condition improved gradually. By the 20th he felt very comfortable, had an excellent appetite and slept well. On the 28th he was allowed to sit up in bed. From this time forward his improvement was continuous. When he left the hospital, April 2d, he had apparently recovered. Except for a slight Kernig, all evidence of the meningitis had disappeared.

Case 6. F. S. A boy, 17 years old. Previous history negative, the parents stating that the boy had never before been sick. On April 7th the boy complained of a sore throat. On the day following he also complained of slight headache, although he attended school. On the 9th he complained of an increase in the severity of the headache and did not eat supper in the evening. He retired early in the evening and about 1

o'clock on the morning of the 10th his mother was awakened by hearing him vomiting in an adjacent room. He did not get up the next morning for breakfast and on being questioned by his father, about 8 o'clock, he complained of very severe headache and general muscular pains in the back and neck. A few minutes later his father found him unconscious and his physician summoned at once found him unconscious with distinct rigidity, slight retraction of the neck, marked Kernig and a temperature of 103°. At 2 p. m. the temperature in the axilla was 103°, the respiration 20, and the pulse 106. He had a leucocytosis of 26,000. He was in a stupor and could not be aroused. He groaned when moved or when the reflexes were examined. The Kernig was marked, the knee could not be extended more than an angle of 100°. The knee jerks were absent, plantar reflex present, the pupils slightly unequal and slightly dilated. A lumbar puncture was made and about 42 c.c. of cloudy fluid withdrawn. 45 c.c. of Flexner's serum injected. Examination of the fluid showed presence of intracellular diplococci. These were not numerous. The patient's condition continued unchanged excepting that the pulse gradually dropped to 90 by 7 p. m., the temperature being 103.4°, in spite of the cool baths. At 9 p. m., the temperature reached 105° in the axilla; the patient was very restless. At 10 o'clock the breathing became very short and difficult, the circulation became impaired, feet and extremities were cold, temperature rose to 136° and the patient died at 11:30.

Case 7. F. M. This patient is a boy 15 years old who was taken sick in a school room on the morning of April 28th. He was nauseated, vomited, had a hard chill, and complained of great headache. He went home and went to bed but his condition was not considered serious enough by the family to call in a physician until the following day, by which time he had a temperature of 101° and still complained of pain in the back and extremities and severe headache.

On the 30th the rigidity in the back was marked, the boy had become delirious and slightly stuporous; the head was drawn back, the temperature was 101°, pulse 120 and the respiration 30. A probable diagnosis of epidemic meningitis was made by the attending physician. A spinal puncture was attempted but no fluid was obtained.

On the following day, May 1st, he continued very restless, insisted, during his delirium, on walking around the room, could not be kept in bed, and complained of great hypersensitiveness. His temperature reached 100.4°, pulse 122, and the respiration 46.

On May 2nd, I saw the case and found the boy delirious but able to answer questions. There was extreme opisthotonos and great retraction of the neck, the Kernig's sign was marked on both sides and the patellar reflexes were absent. The temperature was 100° (axilla), pulse 112 and the respiration varied from 35 to 45. A spinal puncture was made and 80 c.c. of turbid fluid withdrawn, and 45 c.c. of serum injected. This fluid was found to contain numerous intracellular diplococci. The leucocyte count was 20,000.

On the following day, May 3d, there was a marked improvement in the sensorium, the patient was entirely rational, but the physical signs were unchanged. Eighty c.c. of a very turbid cerebrospinal fluid were withdrawn and 45 c.c. of serum injected. The leucocyte count was 16,000.

On May 4th, 90 c.c. of the somewhat less cloudy cerebrospinal fluid were withdrawn, and 30 c.c. of serum injected. The patient on this day said that he was free from pain and appeared to be in a much better condition, although the temperature and pulse remained unchanged. The respiration, however, dropped to about 30. The leucocyte count was 20,000. The retraction of the head was much less, the opisthotonos had almost disappeared and the patient showed marked improvement.

On the 6th, 110 c.c. of clear, amber colored spinal fluid were withdrawn, and 45 c.c. of serum injected. The leucocyte count remained at 16,000. The temperature had dropped to 99.8° and pulse to 100.

During the night of May 6th and 7th patient's condition became somewhat aggravated, he complained of headache, was mildly delirious, had involuntary evacuation of the bowels, and his temperature rose to 101° and respiration increased to about 30.

On the day of the 7th his condition was decidedly worse and it was thought best to discontinue the serum. The leucocyte count was 16,000.

On the 8th a marked general improvement was noted both in his physical and mental condition. The leucocyte count was 13,000, the temperature dropped to normal and the respiration to 24. From that day improvement was steady and on the 16th there was no retraction and but little stiffness in the neck; the temperature, pulse, respiration and leucocyte count were normal and the patient's recovery seems assured.

DISCUSSION.

Dr. Wolf, Kansas City: I heard a number of papers on this subject at the American Medical Association last year, and the results reported to-day are in accord with those reported at that time. The statistics in cerebro-spinal meningitis have been entirely reversed. The mortality was 75 per cent. and now we have 75 per cent. of recoveries.

Dr. John D. Seba, Bland: I should like to ask how is this fluid withdrawn and the serum injected?

Dr. Harris, in closing: The serum is given free by Dr. Flexner. He requires that a bacteriological diagnosis shall have been made before the administration of the serum. I have supplied the physicians of St. Louis with the serum, and will supply it to physicians outside of the city upon sufficient evidence that the condition is produced by the diplococcus of Weichselbaum. Physicians who have a suspected case of meningitis may send the spinal fluid to me, and I will make the examination and forward the serum should the diagnosis be positive.

The technique of making a lumbar puncture is as follows: With a needle 4 or 5 inches long the puncture is made on a line drawn between the crests of the ilium. The needle should be inserted slightly to one side of the median line. When the spinal canal is entered, the fluid will readily flow out if the case is one of epidemic meningitis. As much fluid should be withdrawn as will escape. It occasionally happens that we fail to get spinal fluid following a puncture. In this event another puncture should be made. The serum may be obtained from Dr. Flexner, Rockefeller Institute, New York City.

REPORT OF AN ACCIDENTAL OPENING OF THE LATERAL SINUS.*

By E. T. Senseney, M. D., St. Louis, Mo.

In reviewing the literature on the above subject, one finds surprisingly few cases reported, and these are, for the most part, cases which did not result fatally. If all accidental injuries of the lateral sinus, whether or not they resulted fatally, were reported, we could better avoid such misfortunes; and when they did occur, we would be in a position to understand what dangers might arise and how they should be combated. The case I am going to describe presents some features which are quite unusual, and is, I hope, worthy of your consideration.

The patient, Frank McD., white, age 18, presented himself at my office June 19, 1908, for relief of a chronic middle ear suppuration of long duration. At the age of seven, the patient fell, his left ear coming in contact with a block of wood. He experienced at this time an acute lancinating pain in his left ear, followed by a discharge of blood. The latter was succeeded by a purulent discharge which has persisted without intermission. During January, 1906, the patient had an attack of acute mastoiditis. Dr. X., at that time had performed the simple mastoid operation, and four weeks later had attempted a radical operation. Following the latter procedure, the patient's condition had been very critical. He eventually recovered, but the purulent discharge continued. The patient's general condition had been far below par (*e. g.*, constant malaise, loss of appetite, etc.). He had occasional septic manifestations, and from time to time suffered from attacks of severe ear pain.

At the time of my first examination, June, 1908, the patient was ill nourished, weak, anemic, dull and mentally sluggish, temperature 99.6° F., pulse 80, respiration 20. Facial paralysis of left side was apparent, and although slight, was positively proven by various tests. Aural examination showed nothing abnormal on the right side. Left auricle normal. Post-operative scar immediately posterior to left auricle. Left external auditory canal normal (showing that the radical mastoid had not been performed). Left membrana tympani absent, middle ear filled with granulations, no ossicles or remnants of the same demonstrable, small amount of purulent discharge.

Hearing of the right ear was normal, of the left, practically negative.

The radical mastoid operation was advised. The patient entered the hospital June 23, 1908, and was operated upon June 24, 1908.

*Read in the Eye, Ear, Nose and Throat Section, Fifty-second Annual Meeting, Missouri State Medical Association, Jefferson City, May, 1909.

Operation: The initial incision was made immediately posterior to the auricle through the scar of the previous operation. The knife passed readily to the bone inferiorly and superiorly, but for about 1 c. m. parallel, and directly posterior to the external auditory canal, dense fibrous tissue was encountered. The periosteum was readily elevated above and below, but in the mid portion of the wound, a funnel-shaped mass of connective tissue (its base seemingly closely attached to both bone and integument, its apex directed inward towards antrum and firmly adherent) was encountered. It was found impossible by blunt dissection to free this obstruction and expose the operative field. A knife was introduced to the inner side of the mass as close as possible to its apex and the cut made from within out. This incision was followed by a profuse flow of venous blood. Dr. Simon (whom I was fortunate to have to assist me), immediately packed the sinus opening with gauze. The operative field was then easily freed, and it was shown that the sinus had previously been exposed, the opening in its bony wall being over 1 c. m. in its greater diameter. Through this aperture there had been projected this cone-shaped, fibrous-covered "aneurism" of the sinus. The antrum was found to have been opened and the posterior wall of the canal had been partially removed. The operation was concluded in the usual manner. Bone in the region of the facial canal was soft and necrotic, and as much as was consistent with safety was removed. Plastic after Panse. Opening in the lateral sinus was packed with iodoform gauze tape and wound was closed posteriorly with the exception of space for this dressing.

On the second day following the operation, the facial paralysis had entirely disappeared. However the patient at the end of the second day developed a septic fever, which reached its maximum on the fifth day (103° F.). The temperature was lowered by changing the dressing in the external canal (it once being necessary to dress the case four times in twenty-four hours). The gauze pack was removed from the sinus on the eighth day, without hemorrhage. From that time on the temperature was normal, and recovery was rapid and uneventful. The cavity was completely epidermatized two months after the operation, and the ear was perfectly dry. Hearing is greatly benefited, and the patient's general condition has markedly improved.

While many injuries of the sinus are due to the fault of the operator, many are unavoidable. This case falls particularly in the latter class, since even if we had known the existing condition it would still have been necessary to open the sinus, in order to bare the field of operation. However, the voluntary act would have been much less disconcerting than the unexpected. An additional point of interest in this case is the fact that the patient had his lateral sinus opened twice without fatality. It is also worthy of note that at the second opening, which occurred two years after the first, the sinus was found to be patent. There is no question but what the sinus was opened at the previous

operation, and not merely exposed, as the hastily abandoned and only partially completed "radical," together with the evidence supplied by the patient's family, proved this without a doubt. I feel that much of the credit of the happy termination is due to the prompt and efficient action of Dr. F. C. Simon when the sinus was opened.

308-9 Lister Bldg.

DISCUSSION.

Dr. M. C. Shelton, of Joplin, stated such an accident is not unusual. The remedy is to pack and go right ahead with the operation.

Dr. R. P. Scholz, St. Louis, said that opening of the sinus during operation was not at all unusual but rather a common occurrence, particularly in the European clinics where students are permitted to operate. To show what a trivial effect the opening of the sinus may have on the patient, he told of a case operated upon by a Dutch physician visiting the Politzer Clinic, to whom the privilege of operation had been extended. The patient was a woman of about 65 years of age. The apparent awkward operator had removed only several small fragments of bone from the mastoid; when placing his gouge perpendicular to the surface of the bone, with a violent stroke or two of the mallet, he fairly severed the lateral sinus. This was followed by profuse welling up of blood which caused the operator to discontinue. The next morning when the operator and several of his friends again visited the hospital and found his patient's bed empty, he inquired when death had taken place and whether a post-mortem examination had been made. When told that the patient was out walking in the yard he was indeed surprised.

It is true that a secondary operation, as described by Dr. Senseney, is more difficult than in a fresh case, and we can readily pardon the accidental opening of the sinus under these conditions. If, however, such should occur during operation, there need be no alarm on the part of the operator, for with little pains the hemorrhage can be controlled so as not to interfere with completion of the operation; the prognosis remaining very favorable. The finding of necrotic bone around the facial nerve is not unusual; most likely its removal in this case had been prevented at the first operation by the bleeding.

Dr. Senseney, in closing, stated that although great precaution was taken, septic infection followed, as shown by the temperature. One remarkable fact about the case was that the sinus was found patent in spite of its previous opening.

Dr. Norris asked what evidence is there that the sinus was packed in the first instance.

Dr. Senseney replied that there was no positive evidence, but from what the family said and the story told by the physician to the patient, the operation had been brought to a sudden close by a gush of blood, which meant the opening of the sinus; this must have been packed, as the hemorrhage could have been controlled in no other way.

THE TREATMENT OF PARENCHYMATOUS AND EXOPHTHALMIC GOITRES.*

By Edward G. Blair, M. D., Kansas City, Mo.

The reason for segregating the parenchymatous and exophthalmic goitres from the other types and giving their treatment consideration conjointly is first, because of a well-established conviction that the latter is a progressive form of the first and oftentimes indeterminable and that the question of instituting radical treatment early or allowing this transition of forms to progress through expectant or indifferent treatment is a very pertinent one. The second reason is the well-established fact that nothing but surgical intervention will suffice for all the other forms of goitre.

To substantiate the foregoing, we must turn to the pathology and physiology of these glands as well as to the clinical evidence. Ewing[1] has described four distinct types or stages in the natural history of the thyroid glands of Graves' disease:

1. In the early stages of the disorder, only hyperemia with increase of colloid showing diminished staining reaction with eosin. Microscopically the gland may show no gross changes.
2. Hyperemia with increased colloid, and cellular hyperplasia.
3. Extensive cellular hyperplasia, with increase of imperfect alveoli lined by large or giant cells, and nearly complete loss of colloid.
4. Late stages with fibrosis, atrophy of cells, sclerosis of vessels, hemorrhages and cysts.

In the first and second class we have the pathological findings which are likely clinically to be variously classified as "congestive goitre," "hyperemia of the gland," "colloidal" and parenchymatous goitres, all of which are regarded as innocuous and for which the treatment heretofore has been erratic and empirical. These stages can exist without symptoms of Graves' or may exist with the symptoms of Graves' beginning and unrecognized. Marine and Lenhart, in their observations from a study of goitrous glands in dogs, have found a tendency in all hyperplastic or parenchymatous goitres to undergo a reversion to the colloid state, but of varying degree; and that the study of these glands, heretofore based on human thyroids, was not experimentally possible and hence the confusion about their real state from the clinical cases offered. From their work, coupled with Ewing's pathological findings, we cannot help but be convinced of the interchange of forms

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by no means always clinically recognizable. The size of the glands in no way plays a part in the constitutional effect, as the physiology will show and as I can demonstrate with specimens, and that the macroscopical appearance of simple parenchymatous glands and those of Graves' is similar and indistinguishable.

In considering the physiology of the thyroid gland in reference both to the nature of Graves' disease and its treatment, I cannot but liberally refer to the work of Beebe and Rogers,[2] who have developed so much valuable experimental research and have so ably reviewed the work of others. They have concluded that the disease is a hyperactivity of the thyroid gland and, whether goitrous or otherwise, the thyroid is the offending factor in a vicious circle. The theory on which they work is that the thyroid secretion governs oxydation (?) and with it the vaso-motor system. The secretion contains a cardio-accelerator principle and an oxydative (?) principle. In health, an automatic centre governs the out-put, with each enzyme or principle in definite constant relation. In Graves' disease the quantity of the out-put of the double contents of secretion is increased, but in time the quality deteriorates and the proportion between the constituents varies. As the thyroid activates all other organs, the thyroid secretion activates its source on the thyroid itself, and anything which checks the amount of secretion or lessens the demand for it, breaks this vicious circle. In further support of placing the responsibility on the thyroid gland for the production of symptoms of thyroid cases they[3] cite that tremor, nervous irritability, tachycardia, diarrhea, perspiration, and rapid loss of weight, have all been produced in animals, and also in the human subject, by the administration of thyroid preparations. The almost constant occurrence of goitre, the histological appearances indicative of increased activity, and the greatly increased circulation through the gland vessels, together with the amelioration of the condition by surgical removal, are additional arguments that the gland is a fundamental factor in the disease. That such changes occur in the thyroid gland during the activity of other glands, and especially those responsible for the sexual function in women, there is much clinical evidence to show. The occurrence of goitre in women in the proportion of 8 to 1[4] in men; its almost universal first manifestation at puberty, the increase of the size of the gland and thyroid symptoms, where they have existed, at menstruation; the frequent development of goitre during pregnancy and, oftentimes, its recession afterwards, afford sufficient proof. My clinical study of sixty-three cases of goitre, in connection with some operative observations, has led me to a ready acceptance of the work which I have just reviewed. The numerous spontaneous changes in the size of glands; the many reported cures and improvement from so many widely different agents, have convinced me of the interchangeable activities of the thyroid. A closer study of three cases, upon each of which I did a unilateral thyroidectomy, has impressed me with the importance of early recognition of changes in the

thyroid and the necessity of taking some early radical measure to prevent the progression. None of these cases would have been diagnosed as Graves' cases. Each had a bilateral goitre, clinically diagnosed as parenchymatous; each suffered from almost daily headaches which could not be accounted for; two had slight prominence of the eyes, but neither von Graefe's nor Stalwag's sign was present. No increase in the pulse rate above 100 was noted in any one; all were "nervous," without exhibition of tremors, one had exhibitions of hysteria, and her case had been diagnosed as such by competent medical authority; one was an adult male, one was a married woman who had borne one child which had not influenced the goitre, the third was in a young girl, age 18, which I had observed from its incipiency and for which the treatment had been as unstudied as had the other two; but all of them, I am sure, were gravitating toward the exophthalmic type.

In giving consideration to the treatment of goitre one is impressed with the fact that it is wonderfully widespread and diverse. Pick says that the medical measures are notoriously uncertain and the multitude of methods which have been suggested for the cure of exophthalmic goitre give sufficient evidence of failure. There are time-honored medicinal agents, however, to which a sufficient number of adherents cling not to give them some review. Chief among these are the use of sedatives, bromides usually, with rest and hygiene; the internal and external use of iodin, and more recently the hydrobromate of quinine. The first of these methods embrace a line of symptomatic treatment which undoubtedly produces amelioration of the symptoms in either transforming glands or the definite exophthalmic, and it is not impossible, under these conditions, a reversion may take place toward the normal gland. The iodin treatment is founded mostly on clinical evidence, with considerable to support it. It has, in addition, the experimental work of Beebe[5] with a review of the work of Blum, Roos, Reid, Hunt, and Oswald, with these findings, that if potassium iodid be given to an animal there is an increase in the content of physiologically-combined iodin in the gland. The detoxication theory of Blum for the necessity of a globulin rich in iodin, has been rejected. Oswald finds in goitre a great variation in the relative and absolute amounts of globulin and iodin, and he summarizes by the statement that in goitre there is a relatively large amount of globulin poor in iodin. Beebe concludes that such a theory really means a hypersecretion of a product of less physiologic activity than the normal. Marine and Lenhart[6] have shown that by feeding dogs with parenchymatous goitres, iodin, a reversion to the colloidal state, can be produced identical with the spontaneous reversion which is known to occur. But there is not yet sufficient evidence, other than the clinical, to show that iodin is curative of parenchymatous and exophthalmic goitre. The hydrobromate of quinine treatment can, from the facts already presented, hardly have a logical support as a cure, although the

possibilities of amelioration of symptoms and the clinical evidence of cures is admitted.

The next therapeutic agent to receive attention, although it is more physiologic, is the administration of commercial thyroid extract. Its effect is most noted in the congestive goitres of puberty, and may be due to an increase of the iodin content of the globulin, or to the furnishing of other principles for which there is a demand during the activity of the development of the sexual organs. That it temporarily gives improvement I can testify to, in a considerable number of cases; but any permanent effect I have failed to observe in a single case; the tendency being toward recurrence. It should be used with caution in parenchymatous cases and absolutely rejected in exophthalmic. The use of direct galvanism in high currents and the application of the *x*-ray has not escaped pressure into service in the cure of goitres. The only theory upon which they can be used to cure, is by the production of an artificial fibrosis in the glands, and thereby strangling multiplication of gland cells and over-production of secretion. However doubtful this may be, there is some clinical report of cures, and Mayo has recommended the *x*-ray as a preliminary treatment before operation for the reduction of the vascularity and the diminution of the secretions. He does not, however, regard it as a cure.

There is one method of treatment very popular with the laity against which I wish to protest, and that is the use of massage. In no case of those I have studied have I observed the slightest benefit, and logically it should do harm by perhaps exciting cell activity and the expression of secretions into the circulation.

Keeping in mind the need of eliminating the thyroid gland or its activities, I wish to present the able work of Beebe and Rogers in their production of a specific cytotoxic serum for the cure of the parenchymatous and exophthalmic goitre. The serum is developed by the injection of the proteids of normal human thyroids into sheep, and after a suitable time, the development of a serum possessing two factors, one, specifically antagonistic and inhibitory factor against the proteids of the diseased glands, and one to some extent an antitoxic effect on the secretions. The serum is designed for the condition of hyperthryoidism. It is some support to the radical surgical removal to know that it is more likely to be effective in the cases where surgery would avail; the earlier the cases the better the results, as I am sure follows in extirpation. The cases in which it does not do well are late cases in which surgery does not suffice, or is fatal. They report cures in 25 to 30 per cent.; 60 per cent. improved and 10 per cent. will die. Since January 1st, 1909, I have personally treated five cases by the use of the serum and have acquired an impression of its value. Three are exophthalmic glands; one parenchymatous, and one an atypical form. One exophthalmic, after five months treatment, is apparently cured; all the others still under treat-

ment are improving except the atypical case which, after some improvement, discontinued the treatment.

It now remains to present the position which surgery holds to the treatment of these cases, and after a limited experience of thirty operations I find much in it to commend; but with reasonable conservatism. I am urging the earlier and more careful study of thyroid enlargements and symptoms, and the early removal of at least one-half of a permanently established parenchymatous goitre. The mortality in such cases should approach that of hernia. In exophthalmic cases the danger of operation is increased; but through a better study of these cases and the improved technique of operators, it has been wonderfully decreased. One year ago I collected statistics from the literature extant showing a mortality rate in Graves' of 17 per cent.; this covering a varying number of years previous to 1906; since that time the mortality approaches 6 per cent.; the number of cases rejected for operation is not obtainable. Kocher, in 1907, had finished a series of 600 operations, including the exophthalmic type, without a single death. The medical statistics in comparison are as follows:

Williams reports on twenty-three cases treated medically; six fatal; (25 per cent.); improvement in seven only. Moebius (quoting from five authorities) gives a mortality from medical treatment of 10 per cent., Von Graefe 25 per cent.; Mayo quotes Ord, and Wasinzie gives 56 cases which had existed for five years, or been fatal, with ten recoveries; fifteen incomplete recovery; thirteen considerable improvement; four unchanged and fourteen (25 per cent.) fatal. As to results of operations in exophthalmic cases, Witherspoon reported, in 1906, the results of statistics compiled from the previous ten years, 60 per cent. as cured and 15 per cent. as decidedly helped; the rest slightly helped or died. There has since been no clinical evidence to show that the curative results have not been improved.

In the surgical procedures, from the work of others and my personal experience, I am first in favor of ether as an anesthetic. Dr. H. C. Andersson, who has administered ether in twenty-one of my cases, has repudiated nitrous oxid as a primary anesthetic, and straight ether has been found without a fault. I advocate this for use in this country against the well known use of novocain and adrenalin, locally used by the Swiss operators, exhibitions of which I have seen. I am in favor, always, first of a unilateral excision, perhaps with a middle lobe and a careful study of the case following, before other operative procedures. For the avoidance of the recurrent laryngeal nerve and the parathyroid bodies, I follow the rule which Hartley has expressed, and reiterated by Mayo, of staying close to the gland, particularly in the posterior region of the stump. I have not previously referred to the parathyroids because I believe, as Forsythe[7] has concluded from his investigation of the glands, that there is not sufficient evidence to justify the opinion that the glands bear a pathogenic relationship to any known disease. They are surgically of

import because of the attention which Halstead has given to the sequence of tetany from their complete extirpation; a fact which has been experimentally proven in dogs.

In summarizing the paper I have tried to show: First, that parenchymatous glands are interchangeable with other clinical forms and are prone to progress to the exophthalmic type, and that their early toxic symptoms are frequently overlooked. Second, that all forms of treatment except the surgical and perhaps the serum treatment of Beebe and Rogers is uncertain and efficacious to only a limited degree. Third, that surgery has proven a safe procedure and curative to the largest extent and should be resorted to more early. Four, that the serum treatment may prove efficacious in a considerable number of cases where surgery would avail.

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REPORT OF TWO CASES OF INJURY TO THE HEART.*

By Louis Rassieur, M. D., St. Louis.

While Acting Superintendent of the St. Louis City Hospital the following cases of heart trauma came under my care.

Case I. Penetrating stab wound of the right ventricle. H. W., Permit No. 4078, Hospital No. 32, age 36 years, white man, was brought to the hospital at 3:20 a. m. September 15, 1901. He was stabbed in the left breast with a pen knife during a quarrel. A small incised wound, one and a half inches below and one and a half inches to the right of left nipple, was seen. The wound was enlarged and examined digitally. It penetrated the left pleural cavity. The pericardium could be felt but no puncture was found. There was a slight hæmothorax present. The rib was not injured. There was a possibility of the internal mammary artery being cut. A gauze plug was tightly forced into the wound to stop any bleeding. On account of great shock a radical procedure was deferred. Patient was almost pulseless. He was dyspnœic. A dressing was applied. Morph. sulph., gr. ¼, was given hypodermically one time. Physiologic saline solution was given repeatedly, hypodermically and by the rectum.

At 9 a. m. pulse was, to my surprise, very much better. Patient said he felt fine. Pulse was 104, resp. was 20, temperature 98.2°.

In the evening of the same day, however, the pulse was 108, resp. 30, temperature 101.2°.

Thereafter the temperature became irregular. The pulse became progressively more frequent. The respirations became more frequent and labored.

Three days later (September 18th) signs of a pyohæmothorax were appearing. The left pleural cavity was almost entirely full of fluid.

September 20th. One inch of the sixth rib was removed in the left posterior axillary line. The pleural cavity was full of infected blood. A rubber drainage tube was introduced.

The course now was one of empyema of the thorax. Patient grew gradually weaker and died October 2d, seventeen days after the beginning of his trouble.

On the day of his death his pulse was 130, his respirations 40, and his temperature 100°.

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His pulse was at no time faster than 136. His respirations were most frequent on the day of his death, forty. The highest temperature was 102.8°.

On October 3d a post mortem examination was made by Dr. D. F. Hochdoerfer, a deputy to Coroner Funkhouser.

I shall briefly quote from his protocol the excerpts which interest us. He described the incised wound and the surgical wound over the sixth rib. He found the left pleural cavity opened by resection of the sixth rib and the drainage tube at that site. Left lung was partially collapsed. Right pleural cavity and right lung were normal.

> "Pericardium presents an incised wound one inch long in anterior portion. The pericardial sac contains blood and clots. Heart shows an incised wound ¾ inch in length, penetrating right ventricle just underneath the auriculo-ventricular valve."

In a personal communication the deputy coroner said that during systole the wound was evidently closed by muscle contraction, and during diastole by the superimposing auriculo-ventricular valve segment. The wound was undergoing repair.

From the foregoing one may class this as a case of penetrating wound of the right ventricle which would have healed without operation. Unfortunately death, caused by sepsis, intervened.

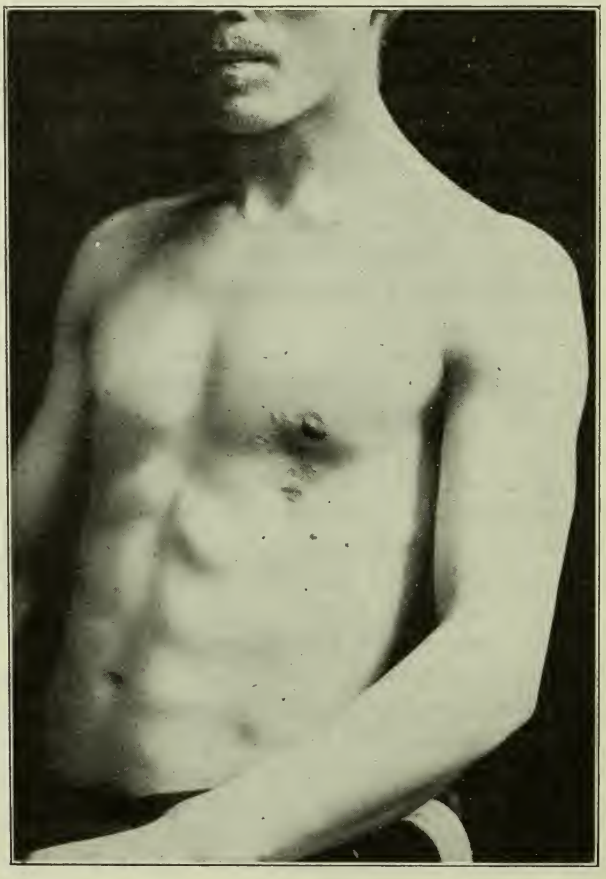
The above course has been observed before. Attilio Ceridali, private docent at the institute of Forensic Medicine at Florence, Italy, under the caption, "A Contribution to the Knowledge of Healing Heart Wounds," reports a similar case in the *Muenchener Med. Wochenschrift,* July 14, 1908, p. 1505. An abstract of his report is as follows: A young man sustained a heart injury in a quarrel. Eight days later he died therefrom. The autopsy showed that the right ventricle had been completely penetrated by a knife stab wound which caused hæmopericardium and collapse. A histological examination of the wound showed that scar tissue had formed. He concludes that heart wounds heal by proliferation of connective tissue, namely of the interstitial and subpericardial.

Marchand, in his "Treatise on the Healing of Wounds," which appeared in 1901, maintains, on page 328, that heart wounds heal by cicatrization, a so-called fibrous myocarditis. As to the regeneration of muscle fibres the signs are very feeble, if present at all. He describes a gunshot wound of the heart in a man, age 28 years. The man died ten days after the accident. An autopsy was made. A penetrating wound of the right ventricle was found which was undergoing cicatrization. The bullet was walled off in the cavity of the ventricle. He cites the case of Steudener. A man with a non-penetrating gunshot wound of the left apex died of an intercurrent trouble fifteen weeks after the injury. The wound had healed by cicatrization.

I shall now report my own second case,—*a non-penetrating gunshot wound of the apex of the left ventricle and of the margin of the left lung:*

E. S., Permit No. 7461, white man, age 20 years, as a result of

tentamen suicidii, shot himself on January 18, 1903, at 2:45 p. m. The first medical attendant probed the wound with a lead pencil. Patient arrived at the hospital at 3:45 p. m. His pulse was bad. His abdomen was board-like. A powder burned, pistol wound was present in the fourth interspace, just below and internal to the left nipple. Examination revealed a slight hæmothorax on the left side. The patient looked pale.



Showing thorax of my second case with cicatrix as it appeared six years after the operation.

He was very morose. The first impression was one of gunshot wound of the peritoneal cavity. During the time that patient was being prepared for operation he bled profusely. At the beginning of the operation patient was depleted, apathetic and covered with profuse perspiration. Chloroform was used. Operation was begun three hours after injury.

Operation: An incision three inches long, parallel to the papillary line, was made extending through the gunshot wound. One inch of the fourth and fifth ribs was resected. (One-half inch of the cartilaginous and one-half inch of the bony portion of the respective ribs.) The left

pleural cavity contained much blood. Patient was turned on his belly to let the blood run out of the chest. I now rolled him on his back. A powder-stained hole was seen in the pericardium. This hole was enlarged for two inches. The pericardial sac was full of blood. I mopped the heart-sac and pulled the heart forward with the left hand, holding the heart by the apex. There was a ragged laceration in the wall of the left ventricle, midway between the base and the apex. The laceration was about ⅜ inch deep, ⅜ inch wide and about one and one-half inches long. Three silk sutures of medium size were introduced in the heart muscle. The bleeding from the heart muscle ceased. A wound of exit was discovered in the bottom of the pericardium. I made no attempt to close it but left it as a drain. I washed the sac with physiological saline solution. The burned portion of the pericardium was excised and the incision united with eight medium-sized silk sutures. No drainage was used in the pericardium. By means of an artery forceps, the lower lobe of the left lung was drawn into view. It was bleeding, perforated, lacerated and contained a hæmatoma. I then ligated the lower portion of the lower lobe treating it as if it were a single bleeding vessel. About one and one-half square inches of lung were thus removed. Before closing the wound in the chest, patient was rolled on his belly to remove all blood. A gauze drain was left in the pleural cavity. Thorax muscles were united with silk, skin with silkworm gut. A gut needle was used for sewing the heart muscle. Duration of operation was 55 minutes. No stimulants were given except a hypodermoclysis of physiological saline solution, 250 c.c. in amount, just before the operation.

When the patient was put to bed his pulse was 100, his respirations 28, and his temperature 99.2° per rectum. He complained of severe pain over region of the heart. The temperature rose and the pulse and respirations became rapidly more frequent. The highest point was reached the next morning at 3:00 a. m. January 19th, temperature being 103.4°, respirations 36, pulse 152.

January 20th, temperature was 101.8°, rectal, respirations 30, pulse 128. Severe heart pain continued. At 6:00 p. m. patient got out of bed when not watched and walked sixty feet.

January 21st, drain was removed. Three ounces of a bloody fluid ran from chest on rolling patient on his side.

January 22d. A systolic murmur was heard over base of heart.

February 13th. Heart murmur no longer audible, chest wound entirely closed.

March 3d. He was discharged from hospital with pulse of 84, respirations 18, temperature 98.6°. His condition was good.

May 4th. Patient's temperature rose to 104°. A physician had introduced a needle into the chest at the mid-axillary line, left side, for diagnosis of empyema.

May 5th. I saw patient and found two sinuses in the line of the original incision. I forced my finger into the upper sinus and broke into

a cavity, from which escaped about five ounces of bloody fluid and some black clots, evidently caused by the exploration needle. I introduced a rubber tube for two days, and patient then made a permanent recovery.

A similar case has been reported by R. Goebell, in the 79th volume of *Archiv. fuer Chirurgie,* page 1106: Mr. M. H., age 23 years, shot himself on June 21, 1905, at 10 p. m. When seen patient was pale and anæmic. A gunshot wound was in the left third intercostal space two cm. external to sternal border. In the vicinity of the wound there was a slight emphysema, and bubbles came from the wound. The area of heart dullness had been replaced by one of tympanitic character. Heart sounds were clear, with a singular ringing, melodious extraneous murmur. The abdomen was soft and not sensitive. During the examination the pulse became rapidly weaker and irregular. The pallor increased.

The diagnosis was gunshot wound of heart and of lung. He made a horizontal U incision. The margin of the lung was found perforated. The perforation was closed with catgut. The left ventricle was found perforated 2 cm. beneath the horizontal portion of the coronary artery. The anterior ventricular wound was closed with four catgut sutures, the posterior with five.

There was much blood in the pleural cavity and about 100 c.cm. in the pericardium. A drain was left in pleural cavity. Patient was discharged cured on August 10th.

This case is similar to mine in that both heart and left lung had been injured. The left ventricle had been perforated, while in my case it had been lacerated.

Metropolitan Building.

SOME RESULTS WITH THE WASSERMANN REACTION FOR THE SERUM DIAGNOSIS OF SYPHILIS.*

By John W. Marchildon, M. D., St. Louis, Mo.

Syphilis, by the variety of its manifestations and because of its transference from parent to offspring, was early recognized as a disease of the blood and numerous attempts were made to find out if there was not some substance in the blood serum of syphilitics, which might distinguish it from other infectious diseases of its class. The earlier studies were made upon the cellular elements of the blood, and cells were described which were thought to be peculiar to syphilis. Numerous bacteria have been found and proved of no importance; the variations in number of white and red blood corpuscles, and their morphological changes have been attributed to the disease. The quantitative changes in hemoglobin, the alkalinity of syphilitic blood serum, the amount of albumen, and the freezing point of the serum were all determined without any practical value.

With the discovery of the presence in blood sera of agglutinins, hemolysins and precipitins, these substances were studied in syphilitic sera and it was found that luetic serum was practically the same as normal serum in its agglutinating, hemolytic, and precipitating properties.

After the discovery of the cause of syphilis, in late years, spirocæta were found (Raubetschek) in the blood serum but so sparingly as to be of no diagnostic value.

Other scientists studied the serum from the chemical, physical and physiological point of view, and to this class belongs our present Wassermann reaction for the serum diagnosis of syphilis.

From the advent of the demonstration of antibodies in the blood serum came our present new era of serum diagnosis, developed largely from the study of syphilitic sera. This serum diagnostic test, as first given to the scientific world by Wassermann, was so very complicated that it could not be made in small laboratories, and the practitioners were not able to use it. This technic I have described elsewhere in detail.†

The reaction is made by mixing serum from the patient with extract of syphilitic liver and fresh guinea pig serum, and let stand 30 minutes in an incubator. Then a hemolytic serum and red blood corpucles are added. Now most all of these substances degenerate; they will not

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†Theory, Technic, and Practical Results of the Reaction for the Serum Diagnosis of Syphilis. St. Louis Medical Review, Nov., 1908.

keep, and since their dosage is determined with difficulty, the making of the test must be painstaking and laborious. It is to be desired that all the materials used in the reaction be made stable, if the test is to be more widely used. I have found that alcoholic extracts of syphilitic liver are just as good as the watery extracts previously used and that they will keep.*

It was known that human hemolytic serum keeps well on ice, and that it could be used with the red blood corpuscles of the patient; this made the test more practical.

The guinea pig's serum used for the complement, is very easily destroyed at room temperature, and it has been the rule to kill a guinea pig to get fresh serum every time the test was made. Noguchi of New York, has modified the test by soaking filter paper in guinea pig serum and drying it in cold air. These slips of paper degenerate also and are not reliable.

During the past year, Mr. L. H. Shackell, of the Physiology Department in St. Louis University, and myself have applied his method of freezing and drying substances in a vacuum, in preparing and preserving the materials used in making the Wassermann reaction. A preliminary report of our work will be published soon. Suffice it to say, we have prepared guinea pig complement in powdered form. All that is necessary is to add this powder to a definite amount of physiological salt solution, and you have fresh guinea pig complement. This powder will keep, as far as we know, at least for months. We trust we shall have made the technic of the serum diagnosis of syphilis simpler, thus making it more available for the smaller laboratories and the profession.

I have classified my cases as regards results with the Wassermann reaction for syphilis, as follows:

(a) Cases showing signs and symptoms of manifest syphilis and giving a positive serum reaction.

(b) Cases showing no signs or symptoms of syphilis and giving a positive serum reaction.

(c) Cases showing signs and symptoms of syphilis and giving a negative serum reaction.

(d) Cases showing no signs and symptoms of syphilis and giving a negative serum reaction.

Of the cases with symptoms present, and diagnosed by the clinician as syphilis, there were 103, and all gave a positive reaction. It is true that in manifest lues, the reaction is practically always positive.

Of patients showing no signs nor symptoms of syphilis at the time of examination, there were 41 which gave a positive reaction.

In these cases there was a definite history of syphilitic infection and, in many cases, of apparent good treatment. It is still a question as to what we shall do when we get a patient who has had syphilis and has

*A Comparison of Alcoholic and Watery Extracts in the Serum Diagnosis of Syphilis. Jour. A. M. A., Dec. 19, 1908.

apparently been well treated and who has no signs or symptoms of syphilis since infected, and yet a positive reaction is given. I have always left it to the clinician to decide and to judge whether or not such patients should receive mercurial treatment. Treatment was begun in all these cases, ten patients having been re-examined after a period of three months mercurial treatment; and all gave a negative reaction.

I have never had a patient who gave a positive reaction with no history nor symptoms of syphilis being present. I have never had a syphilitic blood serum giving a positive reaction but that it would disappear under mercurial treatment and become negative. There are non-syphilitic blood sera which give a positive reaction. These I refered to last year (Journal A. M. A. Dec. 14, 1908) and having no bearing upon the practical value of this test.

There were two cases with symptoms of syphilis present which gave a negative serum reaction. In the first case spirochæta-pallida were found in the ulcer on the penis. A week later a positive reaction was obtained and the patient was at once treated for syphilis. The second case was a young woman with a healing ulcer on the lip. A negative reaction was given and a few weeks later a secondary eruption appeared.

In patients which showed no symptoms of syphilis at the time of examination and giving a negative serum reaction, I have had 61. Of these 34 were non-syphilitic and 27 were cases giving a history of syphilis and having received mercurial treatment. The non-syphilitic cases were patients with other diseases than syphilis, or were normal healthy individuals. None gave a positive reaction.

The cases having had syphilis and giving a negative serum reaction had all been repeatedly treated by the clinician. None had received any mercury for a period of from three months to several years.

The value of the Wassermann reaction to the clinician: My work upon serum diagnosis has shown that the reaction is of great diagnostic value when taken in conjunction with the clinician's findings and the history of the patient. There are always cases which are problems for the physician, and in these laboratory findings are especially desired. In the diagnosis of syphilis, as in all diseases, we need all the information possible. There must be team work between the clinician and the laboratory man. All laboratory diagnosis is only of relative value. Even a histological diagnosis of carcinoma may be wrong, and likewise the clinician may be entirely wrong in his history and physical findings of the case.

However, the patients that have been referred to me for a serum examination have been almost every one, cases where the diagnosis was in doubt. And in many instances the reaction has cleared up the doubt or confirmed a diagnosis previously made.

A case of especial interest that I have had was referred by Doctors Engman and Fuchs. The patient was a young man with a tumor of the

clavicle following spontaneous fracture, and looked very much like a sarcoma. The clinical diagnosis of probable syphilis was confirmed by a positive serum reaction, and the tumor cleared up under mercurial treatment.

Another doubtful case was a man of 40 years, belonging to Dr. W. W. Graves, complaining of severe pain in the head. The patient was a miner and had advanced arterio-sclerosis and ulceration of the tonsil and palate to slight degree. A negative serum reaction was given, and later a histological examination of the tonsil showed carcinoma.

A woman, with obscure nervous symptoms, under the care of Doctors Gayler and Unterberg, with no history nor findings of lues, gave a positive serum reaction. A more careful search led to the diagnosis of tabes.

A young woman with reddened vocal cords and obscure throat findings, in the care of Dr. H. W. Loeb, gave a positive reaction and confirmed the diagnosis of syphilis. I have had a large number of these throat cases where a positive reaction has established a diagnosis of syphilis and in others a negative serum reaction has pointed to some other condition as a cause.

A boy of 7 years, at the St. Louis Skin and Cancer Hospital, service of Dr. Engman, was one of those obscure cases, the diagnosis of which lay between a congenital syphilis, with small multiple disseminate gummata, and tuberculosis, with multiple lesions over the skin, which are called by skin pathologists tuberculides. There were no general symptoms of either disease. The boy, with the exception of the small ulcerative lesions scattered over the integument, was perfectly healthy. In this case a plus reaction was given, and the lesions rapidly healed under mixed treatment.

I could refer to many more cases where the serum examination for syphilis was of great moment. Although the literature concerning this test has been very largely read, and although many know its value, the test has not yet been used by the profession. I trust this valuable diagnostic assistance will eventually come into broader use, as no disease is more fatal and far-reaching in its effects upon the human race. This serum reaction is the only known method by which the insiduous nature and subtle disposition of syphilis can be exposed.

DISCUSSION.

Dr. W. W. Graves, St. Louis: I have made use of Dr. Marchildon's technic and with most gratifying results in my cases. It is a confirmatory aid and in that sense it should be employed. Recently a case at the City Hospital presented some nervous symptoms and a diffuse multilocular thickening of the bones was present. A diagnosis of Paget's disease had been made. There was a peculiar cachexia, arteriosclerosis and some slight alteration of the reflexes and unequal pupils. There was a negative syphilitic history, but syphilis was suspected; Wassermann's reaction was

positive and under specific treatment the condition disappeared. In a case of brain tumor Wassermann's reaction was negative. The patient did have a brain tumor but it was not a gumma. Anything that will aid in the diagnosis of syphilis should be made use of. It is not sufficient for the physician to get a history of a former chancre or sore in making a diagnosis of syphilis. I regard it as a most valuable aid, but on this alone I would not make the diagnosis.

Dr. Guthrie McConnell, St. Louis: The report referred to by Dr. Grindon as having been published in the *Journal* of the American Medical Association, was by Simons, of Baltimore. This Wassermann reaction is one of the few that have so far been shown to be very accurate. In none of them has the same good results been obtained as when the true Wassermann reaction is used, in which you have the syphilitic extract. In regard to the reaction with cancer, Dr. Simons' findings have not been substantiated by other observers. An example is the case Dr. Marchildon has referred to, where syphilis was suspected; the reaction was negative and it was found to be cancer. I think where the technic is carried out by one capable of doing it, that the Wassermann reaction is positive in about 90 per cent. of the cases. The occasional reaction in other conditions is not such as to cause confusion.

Dr. Marchildon, in closing: As to the use of extract of cancer in the place of extract of syphilitic liver or other extracts, it is true these extracts of cancer will sometimes give the reaction, combining with the amboceptor of syphilitic serum and sometimes they will combine with the amboceptor of normal serum and sometimes they do not combine at all. Sometimes extracts of organs other than the liver may be used in making a test for syphilis, but the reaction is not given so readily. No single extract will give a positive reaction with 100 per cent. of syphilitic sera, but it will give a percentage up to 90 or more, so that a good extract is one that will give a reaction with as large a number of syphilitic sera as possible. Serum reaction in syphilis has come to stay.

ACUTE PERFORATIVE APPENDICITIS WITH RECOVERY. REPORT OF A CASE ESPECIALLY AGGRAVATED.

By H. C. Crowell, M. D., Kansas City, Mo.

The following case presents features which we feel warranted in reporting, as by so doing we hope to encourage prompt action on the part of others having a similar case.

Case: Boy, 15 years of age, well, up to 11 o'clock, January 10th, when he went out to skate. On jumping a small stream he was seized with a severe pain and returned to the house. The pain not abating the family physician was called who gave him a dose of morphine and ordered salts. At this time there was no elevation of temperature, increased pulse rate, or evidence of localizable disease. He passed a fairly comfortable night, taking, during the night, several doses of salts. The next morning it was reported that the boy was not much improved and had had no bowel movement. The physician, thereupon suspecting impaction or obstruction of the bowel, called in consultation a brother practitioner and visited the boy. They found a temperature of 100° and pulse of 110, some nausea and increasing tenderness spreading over the abdomen.

Believing from the symptoms—nausea, tympany and an increasing pulse rate—that they had a case of impaction to deal with, they deemed it best to add castor oil to the salts, which was several times given by noon. At 3 o'clock the distention was much increased with increase of temperature and pulse rate. Palpation and percussion did not seem to afford information, of an undoubted nature.

A telephone message at this time, advised me that a case of acute obstruction would be at Wesley Hospital at 7:30 or 8 p. m. for operation.

At 7:30, January 11th, patient entered the hospital and was taken directly to the operating room, where I first examined him, in the presence of his two physicians and others. Temperature 102°, pulse 130, respiration 40, abdomen very much distended, percussion gave slight dullness over right flank. Unable to detect any great disparity in rigidity of the two recti muscles. Boy complained of paroxysms of pain and great distress in breathing. Urine was drawn as he was unable to void it voluntarily.

Patient was given ether and a small incision was made in the median line. As soon as the peritoneal cavity was entered a stream of seropurulent material gushed out, which we sopped up for some time, hoping we might find a walled in space, but soon it was apparent that this fluid filled the entire peritoneal cavity; hence, the incision was enlarged. Fluid sponged away as much as practicable and the appendix

brought into view. This was perforated to the size of a pencil, not bound down, but stood up rather erect.

There was some recent lymph deposit on the cecum and ileum. The appendix was removed and the stump or aperture in the cecum closed with linen. The appendix presented a perforation the size of a lead pencil. The peritoneal cavity was then thoroughly irrigated with salt sol., every fossa and knuckle of gut being thoroughly washed. This being done wick drains, five in all, were introduced, one going over to the splenic flexure, one up under the liver, one to the left iliac fossa, one through an incision in the back and one down to the right iliac fossa and out over the appendix region. Just enough silkworm gut sutures were inserted to hold the intestines in for the time being.

At the conclusion of the operation the pulse was 145. At 9 p. m. patient was placed in the Fowler position and kept there by a sheet folded and fastened to the head of the bed, thus forming a sling which kept him from slipping down flat. The drop proctoclysis was begun at once and continued till early the following morning, and later repeated. He also received 1/8 gr. morphine and 1-40 gr. strychnine every three hours, regularly for five days.

At 12 o'clock after the operation, we found patient comfortable with no cold sweat so indicative of collapse, which all feared must soon appear in this case. Finding this favorable condition, as I was pleased to regard it, I then ventured the opinion, very guardedly, that he had a fighting chance, and as time went on I had no reason to abandon hope, though I had little encouragement from those who knew of the case or the literature.

At 3:30 a. m. his pulse was down to 110, temperature 100. After this his highest pulse was 124 and that for but a short time. In ten days he was practically normal. On the second and third day he had quite a distention of the stomach, which was washed out three times. After washing out the stomach we introduced a cup of eggnog through the tube. In three days two of the wick drains were removed. Two days later all but the back drain were removed. On the tenth day he was out in a wheel chair in the halls and on the porch. Fifteen days after the first operation the wound was closed permanently. At this time all adhesions of intestines to the wound edges and to each other were separated. The appendix wound seemed to be perfect and presented only a slight dimple where it had been. Three days later a fecal discharge, or what looked more like bile, both the light yellow and the heavy brown, came through the upper part of the wound; too high to be from the appendix and was probably the contents of the upper intestine. What should cause the fistula we are unable to understand. It, however, in no way hindered the little fellow from gaining in flesh and enjoying his stay in the hospital, where he received excellent attention, which contributed largely to his uninterrupted recovery.

There are several features in the case that are worthy of further

consideration, in an effort to reach a final analysis, which shall serve to establish principles which may govern us in like cases.

The first natural question which you ask is, why was the diagnosis of appendicitis not made in the early history? In answer to this, we must recall that the pain was disseminated throughout the abdomen: there was no temperature at first, no increased pulse rate, which, taken in a case with no previous history, was not indicative of appendicitis, but pointed more to a possible obstruction.

The second day symptoms, with slight rise of temperature and pulse rate, with vomiting and gaseous distention, with no bowel movement notwithstanding strenuous efforts were made to secure such by the free use of salts and oil, led to the conclusion that it was a case of obstruction. Subsequent developments demonstrated the error of conclusion and treatment, as it was evident that the bowel contents were more effectually forced into the peritoneal cavity by the cathartics.

While the treatment which was instituted here is quite universal, this case served as an object lesson—to be slow in giving cathartics before a diagnosis is made. In either case, appendicitis or obstruction, they were contraindicated. While constipation is frequently associated with appendicitis, it is more marked in obstruction and in this case led to the conclusion that this was the condition under observation, a not infrequent or unpardonable error.

Acute peritonitis may often be mistaken for intestinal obstruction and indeed in this case the only explanation we have for the lack of action of the bowel was an inflamed state of the peritoneum, producing a paralysis as a result of the infection. The temperature and pulse in this case added nothing in way of diagnosis. The most significant feature was the sudden seizure, intense pain, and shock, an increasing tympany, on the second day, leading to the conclusion that it was obstruction. The operation revealed no obstructive lesions aside from the beginning peritonitis, but a perforated appendix, which is deemed the most fatal form we have to deal with when acute, as this one was, with no walling off.

Greig Smith says of this form of appendicitis: "The most fatal with no premonitory symptoms or they are of short duration, and of uncertain import.

"The first real sign is severe pain in the abdomen, rapidly followed by collapse and other signs of diffuse peritonitis. * * * Vomiting sets in and the abdomen becomes rapidly distended, the respiration is quickened and labored. The pain is rarely located in the right iliac fossa but radiates all over the abdomen." Such was our case.

Smith further says: *"I have never known a case of true fulminating appendicular perforation to recover.* * * * Of the few that did recover one-third ought to be placed in the category of diffusion of periappendicular abscess, one-third were not truly general, and one-third slow onset of symptoms proved slow extravasation, rather than sudden diffusion. * * * *No other perforation of hollow viscera is to be com-*

pared in the virulence of its sequences with sudden appendicular perforation. * * * The patient seems doomed almost from the hour of the accident. * * * The number of cases is small." In view of the acknowledged gravity of these cases we incline to a feeling of exultation in the result which we obtained.

We are unable to class this case in any of the exceptions which Smith makes as we had a frank perforation in the very beginning with no time for limitation to the outpour of the colicommunis into the free peritoneal cavity.

The next step which may possibly offer an opportunity for discussion was the free flushing or washing with salt solution. Every fossa and knuckle of gut being thoroughly cleaned.

Some have claimed that dry sponging is superior, but in a case with the quantity of infected fluid in all parts of the abdomen as in this case I am positive no other means equals the thorough irrigation.

Following the irrigation five wick drains were inserted, one to each fossa and one through the back, temporary sutures only to hold the intestines in, were inserted. Here again there are those who would claim that the results would have been the same, or better, had we usd no drain. True it is, the drainage was very slight and only watery, as is usual with gauze drain. The drain in the back seemed to drain less than any of them. Personally I should hardly have dared to close that case without drain though just what the drain accomplished I cannot say.

After reviewing the previous steps in treatment we yet feel that no small part of the successful issue in the case was due to the combined effect of other agencies employed, allowing at all times due credit for most excellent care on the part of a faithful nurse.

Immediately after the operation the patient was placed in the Fowler position and maintained there by means of a sling never being allowed to get down flat in the bed as is usual for about half of the time.

The consensus of opinion seems to be that this position faithfully maintained is a life saving measure, particularly in this class of case.

From the first and for five days he had ⅛ gr. of morphine and 1-40 gr. of strychnia every three hours, which kept him tranquil and I believe facilitated recovery. The strychnia served to maintain the motility of the stomach and heart muscle. Notwithstanding the use of morphine, his bowels moved at 3 p. m. on the second day. One other therapeutic measure employed we believe may be responsible for the recovery of the boy. As we are quite sure failure to employ it has in similar cases and conditions resulted in death. On three occasions in the first three days the stomach became distended and painful with a quickened pulse which in a short time was quite likely to take on the condition now described as "acute dilatation of the stomach;" a speedily fatal condition if not quickly evacuated with the stomach tube, which was done in this case with marked relief with each lavage.

Finally, notwithstanding the fistula which we had, occurring 21 days subsequent to the primary operation, and was more of an annoyance than a menace, we feel highly gratified with the results obtained and especially after noting what Greig Smith has to say of acute perforative appendicitis: *"The most fatal form of perforation we have to deal with."*

212 Rialto Building.

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ADDRESS ALL COMMUNICATIONS TO METROPOLITAN BUILDING, ST. LOUIS, MO.

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E. J. GOODWIN, M. D., Editor.

PUBLICATION COMMITTEE:

Walter B. Dorsett, M. D., Chairman. M. B. Clopton, M. D. M. C. Shelton, M. D.

EDITORIAL

THE SPIRIT OF ORGANIZATION.

What medicine is to-day in its relation to questions pertaining to the health of the people, is so widely different to what it was in the past that it may not be amiss to remind the members of the Association that the propaganda of reform, which has reflected such great honor upon the profession and revolutionized the attitude of doctors toward the people and toward each other, emanated from the profession itself; and that such a change could not have been brought about successfully by any other means than through organization. The spirit of organization is a spirit of inquiry, an uplifting spirit, seeking a change in existing conditions because the reactionary influences flowing from their operation breed depravation of individual and communal well-being. This was the spirit which excited the profound realization that many of the practices prevalent in the profession, and in pursuits correlated with the practice of medicine, were directly, and by reason of their reactive influences, subversive of individual and communal uplift; prompted the reorganization of the American medical and State medical associations; and impelled the application of corrective measures for the elimination of these abusive practices.

The very promptitude of reform in the forces which were operating to quench the spirit of progressiveness that should at all times prevail in the medical profession, was an acknowledgment of reprehensible conduct in pursuits correlated with the practice of medicine, and also in the behavior of many members of the profession; and the correction of such re-

tardatory influences, not to be accomplished by any other means, was alone justificative of the reorganization of the profession and the correlation of its forces. Yet the elimination of the retrogressive factors which were in the beginning the principal objects of attack, represents only a small part of the remarkable change that has taken place both in and out of the profession, for with the growth of the spirit of organization many opportunities were presented for extending medical knowledge into avenues hitherto closed to its enlightening influence because of the lethargy of the physicians themselves.

In the few short years that have elapsed since the awakening, not only have we emerged from the darkness of former days, when the gatherings of medical men were barren of reactionary influences for individual and communal uplift, but we have also apprehended the universality of medicine and have seen its teachings appertaining to the preservation of life and the prevention of sickness accepted and applied in all phases of life, individual and communal, with such reactive benefit to individual, state and nation that there is a constant appeal for more knowledge. The most striking example of this tendency is, perhaps, the campaign against tuberculosis. Started twenty-five years ago by Dr. Edward L. Trudeau the theory was in the beginning ridiculed by thoughtful people and scornfully ignored by doctors. In spite of this cold reception of his beliefs Dr. Trudeau continued in his work, and gradually the truth of his teachings spread and was accepted until, in 1904, the National Association for the Study and Prevention of Tuberculosis was formed by the American Medical Association; and the nation-wide war against the king of destroyers was on. To those who were familiar with the work the ultimate triumph of the principles underlying the new method of treating this disease was never in doubt; and now comes official confirmation of the victory predicted by them, since the latest bulletins issued by Dr. Cressy L. Wilbur, chief of the department of vital statistics of the United States census bureau, contain the encouraging news that the death rate from tuberculosis for the year 1908 shows an appreciable decrease from the rate for the year 1907, notwithstanding that the total number of deaths from tuberculosis in all its forms was larger in 1908 than in 1907. Now, while these statistics speak loud for the continuation of the fight against this disease, it should not be forgotten that the dissemination of knowledge of how to control the ravages of tuberculosis and prevent its spread, has enlightened millions of people, not only as to the means and methods of protecting themselves against infection by this particular disease, but, through the knowledge thus gained, they have also been taught that cleanliness and hygienic surroundings are potent weapons of defense in warding off attacks of other maladies.

While the greatest triumps of organized medicine have been witnessed in the control and prevention of disease—is not cholera but a memory, yellow fever practically non-existent and diphtheria rapidly succumbing to antitoxin?—the science of medicine has not been remiss in stimulating sane and sound methods in the endeavors of those who undertake to correct the faults in our social economy that hinder progress in our development; and nowadays the doctor steps across the line that separates his purely professional work from correlated pursuits more frequently than ever before and joins with the educator, the minister and the social worker in a united effort to lighten some of the burdens that mankind has loaded upon itself through ignorance, error and unbelief.

A secondary action, occurring not alone but as a concomitancy of organization, is the uplift that has taken place within the profession. This is a perfectly natural sequence to changes effected in the spirit of organization, since the things set in motion by the organization, reacting upon the organization itself, have raised the standard of medicine to a far higher plane than it ever occupied before; and to-day the physician who is known and recognized as an earnest supporter of his county, state and national organizations, compels a degree of respect and confidence that is denied one who does not affiliate with these workers in his profession. Such a distinction between the progressive and the unprogressive doctor is forced upon the minds of observing laymen, who know that men associated with medical organizations exhibit a sensitive receptivity to every new advancement in our knowledge and methods of controlling disease. This attitude of the public toward organized medicine is being emphasized daily and is observed not only in private life, when the choice of a physician becomes a matter of moment, but is manifest also in industrial pursuits when the success of the industry depends to any considerable degree upon the counsel and technical knowledge of a regularly associated medical adviser. Life insurance companies are the most conspicuous example of this tendency and here we find that almost all, if not quite all, life insurance companies of national importance select examiners from among the members of local and state medical associations.

The reorganization of the medical profession has already been the source of a far greater amount of good to the doctor and to the people than even its most enthusiastic supporters thought possible in its inception; and yet we have seen only its earliest fruitage. No doubt in the future many other life-saving discoveries will emanate from this great body of men, whose lives are devoted to the alleviation of suffering, the eradication of disease and the lengthening of life, but the lesson we have learned from what has already been accomplished is enough to inspire us to foster unceasingly the true spirit of organization.

ROSTER OF MEMBERS.

In the December issue we shall publish the roster of members of the Association, including in the list only those who have paid their annual dues for 1909 in the local and State societies. Membership in the county society and State association is a matter of very great importance to every physician who seriously wishes to do his share in building the organization and furthering the accomplishment of the many laudable objects for which the Association was organized.

The benefits of membership in the Association are far greater in their value to the practitioner than can be estimated in dollars and cents, and every thoughtful physician who is imbued with a desire to live up to the principles of his profession and support the high purposes for which the organization has been formed, falls short in the performance of his full duty to himself and to his patients if he remains outside of his county society.

"DOCTORS MUST BE GOOD."

Under this caption the St. Joseph (Mo.) *Gazette* comments editorially upon the recent action of the State Board of Health in suspending the license of a physician who had prostituted his professional privileges by peddling whiskey prescriptions indiscriminately. The offense was a flagrant one, in so far as the physician had repeatedly received warning of his misdemeanors by arrests and fines on the part of the local authorities; but despite the punishments, his record shows no diminution in the number of prescriptions for whiskey which he continued to write, as no doubt the business was profitable and the fines insignificant, since he issued as many as 2,000 whiskey prescriptions in one month. The writer of the editorial referred to, exhibits an illuminating perception of the responsibility of physicians and the limitation of the privileges conferred by license to practice medicine. The clarity of his utterances comes as an encouraging variation from the fuliginous dissertations usually offered in newspaper comments anent medical practice and its relation to the public. The Board suspended the physician's license for a period of fifteen years, which prompts the *Gazette* to say:

> "During that period it is hoped the doctor will have ample time to reflect upon the value of a physician's license. The action of the state board in this case may seem a little drastic, but it is not. The offender was a notorious one. He not only violated the law but did it openly and persistently, in the very face of frequent warnings. Indeed, he had been arrested, convicted and fined by the criminal authorities of the county in which he resided, but without permanent results to his betterment. The board was forced to do something and it acted wisely in letting it be understood that it stands for the rigid enforcement of the laws."

It now remains for the local authorities of Boone county, in which county the offense was committed, and for the Boone County Medical So-

ciety, to see to it that this offender against the laws of the State and the tenets of the medical profession, shall not violate the restrictions placed upon him, during the period of suspension of his license to practice, by any condonation on their part should an attempt be made by him to engage in the practice of his profession.

OBJECTIONABLE MEDICAL PUBLICITY IN THE LAY PRESS.

In view of the fact that the publication in the lay press of items laudatory of the personal achievements of physicians in the treatment of their patients, and of articles descriptive of successful surgical procedures, is a violation of the principles of the ethics of our profession and is, furthermore, a debasement of the dignity that should at all times attach to the practice of medicine, the JOURNAL will in future devote a column to the reproduction of paragraphs and items from newspapers that physicians, whether members of the local society or not, permit to be printed in exploitation of their skill and superior abilities or descriptive of operative successes in the treatment of their patients. This information will be published for the special benefit of the censors of the county societies, who should take cognizance of the matter and require an explanation from the physicians named in the articles. County society secretaries are requested to send marked copies of papers containing objectionable items of this character to the editor of the JOURNAL.

STATE CONFERENCE OF CHARITIES AND CORRECTION.

The Missouri State Conference of Charities and Correction will meet in Farmington, Mo., November 4, 5 and 6. Mr. M. P. Cayce, president, will read an address on the subject of "What is Needed for a Higher Standard in Our Institutions?" Other papers on the program are: "Civil Service in State Institutions," by Dr. M. A. Bliss, of St. Louis; "Defective Children," by Dr. James Stewart, medical supervisor of public schools, St. Louis; "Delinquent Children," by Mr. Roger N. Baldwin; "Street Trades," by Father Dunne, of St. Louis; "Private Charities," by Mr. Philip N. Seman; "Education of the Insane," by Dr. G. Wilse Robinson, of Kansas City; "The State Campaign Against Tuberculosis," by Dr. O. H. Brown, of Mt. Vernon, Mo. Gov. Hadley will also deliver an address, and the Rev. Dr. W. C. Bitting and Mr. W. C. Graves, secretary of the Illinois Board of Charities, have been invited to speak.

EDITORIAL NOTES

The Mississippi Valley Medical Association held its 25th annual meeting in St. Louis, October 12, 13, 14. The session was probably one of the most delightful in the history of the organization, both from the standpoint of the number of instructive papers read and the pleasurable social features prepared by the local committee of arrangements. The attendance was large and almost all the states in the Mississippi Valley were represented, while invited guests from the east and west coasts added greatly to the interest in the meeting. The program contained many papers of a classical nature in both the medical and the surgical sections, and to emphasize a few of them does not detract from the excellence of the others. Prominent among those which created the greatest interest among the members was the symposium on exophthalmic goitre, with papers by Drs. Beebe, of New York; Ochsner, of Chicago; Crile, of Cleveland; Jacobson, of Toledo, and Kanavel and Pollock, of Chicago. Pellagra and hookworm disease, two subjects that have come prominently before the profession and the public through recent investigation and study, aroused almost an equal amount of attention. Pellagra was described by Dr. C. H. Lavender, Past Assistant Surgeon United States Public Health and Marine Hospital Service, and Dr. J. J. Watson, of Columbia, S. C., the latter presenting some patients. Hookworm disease formed the subject of an address by Dr. C. W. Stiles, of Washington, D. C.

The Association very properly endorsed Dr. Wiley, the government chemist, in his fight against the adulteration of food stuffs, and condemned the use of boric acid and benzoate of soda as preservatives.

The officers elected for the ensuing year are: President, Dr. Frank P. Norbury, Kankakee, Ill.; first vice-president, Dr. Geo. W. Cale, chief surgeon Frisco Railroad, St. Louis; secretary, Dr. H. E. Tuley, Louisville, Ky., re-elected. Detroit was chosen to entertain the Association in 1910.

The Annual Meeting of the Missouri State Nurses' Association, held in St. Louis October 7-8, marked a multiple milestone in the history of the organization. The members congratulated themselves over the recent passage of the bill requiring State registration for trained nurses. The success of this bill is in no small measure due to Miss Forrester, of Kansas City, a graduate of St. Luke's Hospital (St. Louis), President of the Association, who has been indefatigable in arousing public opinion to the necessity of such a measure.

A letter was read from Gov. Hadley asking for a list of names from which he could select five who should constitute an examining board. These have since been appointed, and are: To serve 3 years: Mrs. F. E. S. Smith, Superintendent St. Luke's Hospital, St. Louis; Miss Maud Landis, Levering Hospital, Hannibal. To serve 2 years: Miss Ida Gerding, Lutheran Hospital, St. Louis; Miss C. B. Forrester, University Hospital, Kansas City. To serve 1 year: Miss E. A. Tooser, Springfield. Miss C. B. Forrester, Kansas City, and Miss Anna Love, St. Louis, were re-elected for the ensuing year as President and Secretary, respectively.

New Madrid County Medical Society was reorganized on October 12, 1909, meeting with Dr. T. S. Hollenbeck, at Portageville. Election of officers resulted as follows: Dr. T. S. Hollenbeck, president; Dr. Loyd Diggs, vice-president; Dr. J. E. Corlis, treasurer; Dr. J. H. Timberman, secretary. Committee on by-laws, Dr. W. A. Sibley, Dr. Phillips. Censors, Dr. P. M. Mayfield, Dr. J. A. Atkisson, Dr. R. E. L. Williams. Following members enrolled, in addition to above: Dr. Johnson, Dr. C. S. Blackman, Dr. J. A. Fakes, Dr. Geo. Dawson, Dr. H. A. Killian. Next meeting to be held at office of secretary Monday, October 25th, 1909, at Marston, Mo.

The preliminary report of the Census Commission relative to the second decennial revision of the Classification of the Causes of Death, made by the International Commission in Paris recently, together with the revised list of titles, will be found in Census Bulletin No. 104, which will be published soon and copies will be sent to all of the registration officials of the United States. A new manual of classification will be prepared for the use of the registration offices of the United States as soon as the detailed results of the revision are available, and an effort will be made to bring the revised classification to the attention of every physician and local registrar in the country as an aid to the proper reporting of causes of death.

Dr. Wilbur states that the United States starts at the beginning of a new census decade with the revised classification of causes of death; a revised standard certificate of death, which will be adopted by the American Public Health Association, and put into effect for all of the registration area beginning January 1, 1910; and with new rules and instructions recently formulated by the Director of the Census and promulgated to all reporting offices for the purpose of obtaining more complete and correct transcripts of the deaths now registered.

Medical Supervisor, Indian Service (Field). The United States Civil Service Commission announces an examination on November 24,

1909, to secure eligibles to fill a vacancy in the position of medical supervisor in the Indian field service at $250 a month and expenses.

Applicants must show in their applications that they have had at least three years' experience in medicine since graduation from a reputable medical college, and have had special training and experience in connection with tuberculosis and trachoma.

Applicants should apply either to the United States Civil Service Commission, Washington, D. C., or to the secretary of the board of examiners at the postoffice for application Form 1312.

The Radium Hospital Association, of Bland, Mo., has been organized and incorporated under the benevolent act which allows the incorporation of societies of a benevolent character. The association consists of two classes of members, annual members and life members. An annual member pays five dollars per annum, and life members are those who pay one hundred dollars into the association. Annual members become life members whenever they have paid a sum of one hundred dollars into the treasury. The association has secured a whole block for a hospital site. Excavation has already begun and the corner stone will, in all probability, be laid on Thanksgiving Day. The building, which is to serve for hospital purposes, will be 45x75. The basement will be of concrete with two stories of pressed brick, thus making the building practically three stories high. The building is to be completed by the middle of June next and will cost about $10,000.

Articles Accepted for N. N. R.:

Tannismuth (Heyden Chemical Works).
Digalen (Hoffmann-LaRoche Chemical Works).
Benzosalin (Hoffmann-LaRoche Chemical Works).
Benzosalin Tablets (Hoffmann-LaRoche Chemical Works).
Thephorin (Hoffmann-LaRoche Chemical Works).
Thephorin Tablets (Hoffmann-LaRoche Chemical Works).
Veronal Sodium (Merck & Co.).
Zinc Peroxide Soap (Roessler & Hasslacher Chem. Co.).
Mergal (Riedel & Co.).
Salipyrin (Riedel & Co.).
Perogen Bath (Morgenstern & Co.).
Suprarenalin Inhalant (Armour & Co.).
Bilein (Abbott Alkaloidal Co.).
Bilein Pills—1/4 gr., 1/8 gr., and 1-12 gr. (Abbott Alkaloidal Co.).
Iodone Oil (Henry C. Blair Co.).
Iodone Ointment (Henry C. Blair Co.).

COUNTY SOCIETY NOTES

CALDWELL COUNTY MEDICAL SOCIETY.

The Caldwell County Medical Society met in Hamilton, October 27th, the afternoon session being held in the Knights of Pythias hall. The work of the afternoon was the hearing of papers and reports of cases by the physicians and the election of officers. The visiting physicians were accompanied by their wives and a reception was held during the afternoon in honor of these ladies.

There were present, in addition to the local physicians: Drs. S. D. Smith, of Cowgill; B. F. Carr, of Polo; C. L. Woosley, of Braymer; W. S. Shouse and J. E. Gartside, of Kingston; G. W. Goins, O. N. Thompson, C. O. Dewey and O. O. Meredith, of Breckenridge.

The officers elected for the ensuing year were as follows: B. F. Carr, Polo, president; S. D. Smith, Cowgill, vice-president; G. W. Goins, Breckenridge, secretary; C. L. Woosley, Braymer, delegate to the State Association. The next meeting will be held at Kingston in January.

The evening session was held at the Presbyterian church and was an open one, a general invitation having been extended to the public to attend. Dr. C. O. Dewey, of Breckenridge, read a paper on "Some Means of Preventing Tuberculosis." Dr. T. Brown, of Hamilton, who is president of the State Medical Association this year, read an address on "The Public Health, Both National and State." The physicians hold these open meetings in the different towns of the county in order to call the attention of the non-medical public to the simple and most effective means of promoting proper sanitation and healthful living and thus preventing the spread of disease as much as possible.

The session at the church was followed by a banquet in the dining room of the Knights of Pythias hall, which was enjoyed by the physicians and their wives and a few invited guests.

A reception was held in the afternoon at the beautiful and spacious home of Dr. and Mrs. W. H. Aplin on Kingston avenue in honor of the wives of the visiting physicians.

CARTER-SHANNON COUNTY MEDICAL SOCIETY.

The Carter-Shannon County Medical Society met in the office of the secretary, Dr. J. A. Chilton, at Van Buren, with the president, Dr. Wm. Fulton in the chair, the following members being present: Drs. P. D. Gum, Frank Hyde, Wm. Hastler, T. W. Cotton; also Druggist J. T. Loyd.

Dr. Edward Heneschel, of Winona, Mo., was made a member of the society.

Among the interesting subjects discussed, the first was "The Advantages of the County Society." Dr. Cotton led the discussion, enumerating such advantages as that of securing the State Journal, the

post-graduate course, advantages of coming reciprocity between Missouri and other states, which can be obtained only through membership in the societies, protection from damage suits, the advantages obtained from physicians associating together, etc. The subject was also discussed by Drs. Hyde, Gum, and, in fact, all the doctors present.

An interesting case of chronic rheumatism was presented to the society by Dr. Chilton, which was carefully examined by the doctors and freely discussed.

Druggist Loyd, though not a member, talked very interestingly of the druggist's work, showing the close relationship between the work of a doctor and that of a druggist.

The meeting was a success, one that was a benefit to all present.—J. A. Chilton, M. D., Secretary.

CALLAWAY COUNTY MEDICAL SOCIETY.

The Callaway County Medical Society met in its regular session in the circuit court room at three o'clock Thursday afternoon and was attended by many of the physicians of the city and county as well as visitors from other points.

Dr. C. H. Christian, of New Bloomfield, president of the society, was in the chair.

Dr. Joseph Grindon, of St. Louis, was present by invitation and delivered an address on the "Struggle of the Body Against Infection," which was appreciated by the laity as well as the professional part of the audience.

Dr. Sneed, of Jefferson City, gave a talk on "Observations in European Hospitals" that was full of interest.

Dr. J. G. Moore, of Mexico, reported a case of operation for tubercular peritonitis which was of special interest to the doctors.

The following visitors and members were at the meeting: Dr. Grindon, of St. Louis; Dr. Sneed, of Jefferson City; Dr. Moore and Dr. Blanks, of Mexico; Dr. Berry and Dr. Gleason, of Auxvasse; Dr. Christian, of New Bloomfield; Dr. Suggett, of Boydsville; Dr. Roots, of Tebbetts; Drs. Yates, Young, Tony, Owen, Dixon, McCall, Basket and Crews, of Fulton, and the physicians of the State Hospital No. 1.

The presidents of each of the educational institutions were invited to attend the sessions of the society.

Hon. D. H. Harris found it impossible to get away from Jefferson City to keep his appointment to address the society on "Expert Medical Testimony," but sent a paper on the subject.

At 6:30 the regular meeting adjourned to meet at the Fulton Hotel at 8:00 o'clock to partake of a five-course banquet that had been prepared for the members, visitors and a few invited guests. The banquet was elegant in every particular. The menu was elaborate, the service excellent, the company congenial, so that the time slipped by so pleasantly that it was 11:30 before the party left the tables, and it is probable that they would have tarried longer had not one of the guests intimated that the hour was near at hand when the graves were said to yawn and the dead come forth and that would be a bad time for doctors to be abroad.

During the banquet hours with Dr. Christian acting as toastmaster short talks were made by several.

Dr. John J. Rice, in his happy manner, paid a compliment that was

deserved, to the medical profession as a whole and to the high rank that the majority held as a whole and that they should hold, considering the importance of the profession.

Superintendent Wells, of the public schools, spoke of the advantages that he thought would follow if we could have medical inspection of the schools and Drs. Grindon, Moore, McCall and Yates in short talks endorsed what Prof. Wells had said and pointed out advantages that would accrue to the children of the schools and to the state if we could have such inspection. One speaker said it would be easy to interest a legislature and get large appropriations if the health of the hogs, cattle and horses was endangered, but not so easy when it was to protect the health of the children or individauls.

CHARITON COUNTY MEDICAL SOCIETY.

The regular monthly meeting of the Chariton County Medical Society was held in Brunswick, on the second Thursday of October. The members present were: Drs. J. H. P. Baker, G. A. Edwards, Harry Tatum and C. A. Jennings.

Dr. Brummall reported a case of tetanus, produced by a gunshot wound in a young man. The period of incubation was fifteen days. The piece of gun-wadding found in the wound was removed and then the wound was thoroughly curetted. The patient made a good recovery without the use of antitoxin.

Dr. Edwards, discussing Dr. Brummall's case of tetanus, said he thought antitoxin of no value in the treatment of tetanus.

Dr. Tatum reported an interesting case of peritonitis, resulting in abscess of the rectum, in which the patient made a good recovery after an operation. The first symptoms were pain and tenderness over the abdomen and some tympanitis. On April 11th the patient vomited, and this was followed by fever and pain over the right side, later extending over the entire abdomen. The abdomen was distended and very rigid; a mass was palpable at McBurney's point. Hypodermic injections of codein, ¼ gr., were repeated as often as necessary and normal salt solution injected per rectum. At the next visit the doctor found a bulging of the anterior wall of the rectum and discovered an abscess just within the anus. This was opened and the pus discharged.

The next meeting of the society will be held at Salisbury, November 11th.—C. A. Jennings, M. D., Reporter.

LEWIS COUNTY MEDICAL SOCIETY.

The Lewis County Medical Society held an informal meeting at Monticello, September 30, 1909. The following members were present: Drs. J. C. Brown, J. D. Raines, R. B. Schofield, T. F. McGlasson, J. P. Frame, N. O. Owens, C. N. Frame, John Ford, H. W. McKim, Paul F. Cole, Z. P. Knight, W. B. Simpson, Geo. P. Knight, P. W. Jennings.

A committee, composed of Drs. Frame, Ellery, Raines and Knight, was appointed to draft the following resolutions of respect in behalf of the society on the death of our president, Dr. Junius Tompkins, of Canton:

WHEREAS, On the 18th day of September, 1909, Dr. Junius Tompkins, of Canton, Mo., oldest member of the Lewis County Medical Society, after exceeding the Psalmist's allotment of time, became tired of the burdens of this life and laid down to pleasant dreams, therefore be it,

Resolved, That we have lost one of our most faithful members, Lewis county one of its most skillful physicians, society an ornament and humanity a friend. That his life was one unbroken process of labor with a great intellect and a carefully trained mind. He aimed to lengthen human life and relieve pain; and be it further

Resolved, That a memorial page be set aside in the minutes of this Society and a copy of these resolutions be furnished to his bereaved family.

DR. GEO. P. MCKNIGHT, Chairman;
DR. J. P. FRAME,
DR. WM. ELLERY,
DR. J. D. RAINES,
The Committee.

Dr. C. N. Frame, of Ewing, was elected to fill the vacancy caused by the death of Dr. Tompkins.

The next meeting will be held in Monticello, October 19, 1909.—PAUL F. COLE, M. D,. Secretary.

MONITEAU COUNTY MEDICAL SOCIETY.

The Moniteau County Medical Society met in regular quarterly session at California, September 9th. The following members were present: Drs. W. R. Patterson, H. C. Klueber, J. H. Lang, John Inglish, J. B. Norman and H. S. Marsh.

Interesting cases were reported by Drs. Norman, Klueber and Lang.

The scientific part of the program consisted of a paper entitled "Summer Complaints of Children," by Dr. J. H. Lang, and a paper entitled "Individuality of the Physician," by Dr. J. B. Norman. Both were well written, instructive papers and each brought out a large amount of thoughtful discussion.

The next meeting will be held in Tipton on the second Thursday in December.—H. C. FREUDENBERGER, M. D., Secretary.

SHELBY COUNTY MEDICAL SOCIETY.

The Shelby County Medical Society met at Shelbina, October 15th. The regular program was suspended in honor of Dr. L. W. Dallas, who is soon to leave for Texas. Compliments were showered upon Dr. Dallas as a man and physician; his removal will be a great loss to the profession and to the county society, for he was never too busy or tired to attend the meetings and to him more than to anyone else is due the present good condition of the society.

Dr. Carson pleaded for maintaining the highest ideals of the profession and for eliminating the purely commercial.

Dr. Vaughn spoke of the hearty coöperation and good feeling of the profession in the county.

Good talks were also made by Drs. Chapman, Roy, White and Smith.

On resuming the regular program, Dr. Roy read a paper on "Therapeutic Agents," which was good and filled with many practical suggestions which he had found useful. The paper brought out a good discussion by all members.

Dr. Ferguson, of Callaway, was elected a member.

Dr. Dallas made an excellent talk on the benefits derived from strong organization and the county medical society and thanked those present for the complimentary remarks.

Those present were Drs. L. L. Smith, Carson, Pollard, Chapman, Willis, White, Ferguson, Vaughn, Wood and Dallas.—A. M. Wood, M. D., Reporter.

ARTICLES APPROVED BY THE COUNCIL ON PHARMACY AND CHEMISTRY.

SODIUM ICHTHYOL.

A derivative of ichthyol containing sodium instead of ammonium.

Actions, Uses and Dosage.—These are the same as those of ichthyol. Its firmer consistence makes it more suitable for pills. Manufactured by the Ichthyol Co., Hamburg (Merck & Co., New York).

STOVAINE.

Stovaine, $CH_3.C(C_2H_5)\ (O.CO.C_6H_5)CH_2.N.(CT_3)_2.HCl{=}C_{14}H_{22}O_2NCl$, is the hydrochloride of 1-dimethylamino-2-ethyl-2-propanol benzoyl ester.

Actions and Uses.—Stovaine acts as a local anesthetic of about the same power as cocaine, but dilates the blood vessels, whereas cocaine contracts them and exerts a tonic action on the heart. It is only 1/3 to ½ as toxic as cocaine. It is used as a local anesthetic; while most reports are favorable, one case of gangrene has been reported following the use of a 10 per cent. solution. Dosage. —Internally, 0.002 Gm. (1/30 grain) as pill. Locally it may be used in the eye in 4 per cent. solution and applied to other mucous membranes, as in laryngology, in from 5 to 10 per cent. solution. For hypodermic injections for local anesthesia it can be used in 0.75 to 1 per cent. solution. Manufactured by the Poulene Fréres Company, Paris (Walter F. Sykes, New York).

STYPTICAN.

Stypticin, $C_{12}H_{13}O_3N.HCl$, is the hydrochloride of cotarnine, an oxidation product of narcotine, similar to hydrastinine.

Actions and Uses.—Stypticin is a hemostatic, analgesic and uterine sedative. The mechanism of its action is obscure. It has been recommended particularly in functional dysmenorrhea and menorrhagia of puberty and of the climacteric; in subinvolution of the uterus after parturition and abortion, as well as in all profuse uterine hemorrhages; in bleeding from the bladder, from the nose, after extraction of teeth, etc. Dosage.—Internally, 0.05 Gm. (¾ grain) four to five times daily, in sugar-coated tablets or gelatin capsules; or by hypodermic injection (in urgent cases) 2 Cc. of a 10 per cent. solution; externally, as a styptic, pure or in strong solution. Manufactured by E. Merck, Darmstadt (Merck & Co., New York).

STYRACOL.

Styracol, $C_6H_5.CH{:}CH.COO(C_6H_4.OCH_3){=}C_6H_{14}O_3$, is the cinnamic acid ester of guaiacol.

Actions and Uses.—Styracol is an intestinal antiseptic and is claimed to combine the antituberculous actions of guaiacol and cinnamic acid. It is said to liberate in the intestinal canal a larger proportion of its guaiacol (up to 85 per cent.) than other synthetic preparations of that substance. It is recommended for the initial stage of phthisis, chronic enteritis and intestinal disturbances in general, catarrh of the bladder, etc. Dosage.—1 Gm. (15 grains) in powder or tablets. Manufactured by Knoll & Co., Ludwigshafen a. R. and New York.

SUBLAMINE.

Sublamine, $3HgSO_4.8C_2H_4(NH_2)_2$, is a compound of three molecules of mercuric sulphate with eight molecules of ethylenediamine (which see).

Actions and Uses.—Sublamine is a disinfectant, similar to mercuric chloride, over which it has the advantage of being non-irritating, more penetrating and readily soluble. Dosage.—It is used in 1:1,000 solution for skin disinfection and in 1:5,000 to 1:10,000 solutions for irrigations of the bladder, etc. It may be used in syphilis by injection into the gluteal muscles of a 3 or 4 per cent. solution. Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin (Schering & Glatz, New York).

SULPHONAL.

A name applied to Sulphonmethanum, U. S. P. Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York).

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ORIGINAL ARTICLES

REGURGITANT VOMITING DUE TO UNUSUAL ADHESIONS FOLLOWING GASTRO-ENTEROSTOMY WITH PYLORIC EXCLUSION.*

By Max W. Myer, M. D., St. Louis, Mo.

By "regurgitant vomiting" is understood the passage of the content of the efferent loop of bowel into the stomach after gastro-enterostomy, in contradistinction to "vicious circle," which indicates a similar process with the escape from the afferent loop. Most writers object to this distinction on the basis that a differentiation cannot be made in a great majority of cases even after the abdomen is open. In the case to be reported such a differentiation is possible.

The writer sees no objection, however, to the use of either the terms "regurgitant vomiting" or "vicious circle" to include all cases of persistent vomiting following gastro-enterostomy, if the derivation of the terms does not convey an explanation of the mechanics of the vomiting.

The literature of the past few years contains few recorded cases of vicious circle and the very recent text books regard its presence as an indication of faulty technique. While the general adoption of the posterior no-loop gastro-enterostomy has tended to reduce to a remarkable degree the cases of persistent vomiting after operation, nevertheless from time to time such cases will occur where the technique is not entirely at fault, but secondary complications, especially adhesions bring about this unfortunate state.

No one etiological factor for regurgitant vomiting exists. A review

*Read in the Surgical Section, Fifty-second Annual Meeting, Missouri State Medical Association, Jefferson City, May, 1909.

of the reported cases and a study of the improved technique, developed entirely from clinical indications, will readily demonstrate this.

The original operation of anterior gastro-enterostomy was the condition par excellence for the development of this complication. The afferent loop which is of necessity very long, becomes water-logged. Whether the mere presence of a long loop without a kinking or spur formation at the new stoma, is sufficient to produce this condition is very doubtful. The combination of the two processes is usually present.

In the posterior gastro-enterostomy with a long loop, the same causes and mechanics of the vomiting exist. According to Deaver, these long loop cases vomit several hours after eating. The stomach partially empties itself into the duodenum, its further movements being prevented by the normal reflex from the distended afferent loop. This permits the digestion and absorption in great part from the duodenum and jejunum with the possible escape of some of the content into the efferent loop. When the proximal loop empties, the stomach movements return and the surplus of bile and pancreatic juice which has entered it from the duodenum, as well as the residue of food, if any remained, is now rejected by vomiting. Deaver thinks the great length of the loop would explain the fact that so many of these cases of regurgitant vomiting do not suffer great loss of weight.

Antiperistalsis with escape of the duodenal content through the pylorus into the stomach,—the general acceptance of which mechanism is responsible for the term "vicious circle,"—has not been demonstrated. Cannon in a large series of experiments on animals found that the content of the duodenum always entered the stomach through the new gastro-enterostomy opening. Cases in which exclusion of the pylorus at secondary operation had failed to relieve the vomiting, would seem to verify these findings.

Since Wölfler's operation in 1881, the various modifications of the gastro-enterostomy such as pyloric exclusion, entero-enterostomy combined with closure of the afferent loop, Roux's operation and many others, have all had as their aim the change of the direction of the current from the stomach to the efferent loop of bowel.

When Von Hacker's posterior gastro-enterostomy was first employed, in addition to the disadvantages of the long loop, complications such as hernia through the opening in the mesocolon and occasional contraction of the mesocolon, causing constriction of the loop of bowel at the point of anastomosis, were encountered.

The final and seemingly permanent adoption of the posterior no-loop operation does away with all the complications which have been previously mentioned. Careful technique will prevent the kinking and spur formation at the new stoma, making unnecessary the suturing of the afferent and efferent loop to the stomach, as recommended by some. Careful suture of the mesocolon will prevent the hernia and obstruction.

There is no proof that the direction of the line of anastomosis has

any effect in either the prevention or production of regurgitant vomiting. Experiments have not shown that opposite peristalsis of the stomach and jejunum alone will produce this complication.

Closure of the gastro-enterostomy opening in cases in which the pylorus is obstructed or excluded is a cause of persistent vomiting. This is due to faulty technique, following the use of the button or faulty mucous membrane suture. A large number of button gastro-enterostomies and some few suture operations are reported in which the gastro-enterostomy opening closed, but I have been unable to find a single case recorded in which the opening closed where a pyloric exclusion was done at the same time. Mayo claims that if permanent obstruction at the pylorus exists, no marked contraction of a properly formed gastro-enterostomy need be feared. In the case to be reported, the button gastro-enterostomy closed completely with gradual starvation of the patient, even though the pylorus had been excluded at the first operation.

Martin has very recently reported an interesting case in which two gastro-enterostomies were performed with buttons, the one closing in three years and the second in five and finally requiring a Roux operation. In the discussion of this case Gibson advised against the use of the button in these cases with a simple pyloric stenosis, but would use it in the cases of pyloric exclusion or resection.

Kelling regards the large size of the gastro-enterostomy opening as an etiological factor in some cases. The presence of the large opening according to him, permits a spur formation by the mesenteric border of the jejunum entering the stomach opening. Cannon and Blake describe a similar result due to an overdistention of the stomach.

The attempt to explain regurgitant vomiting entirely on physiological grounds has failed. Boldireff has proved conclusively that the mere presence of bile and pancreatic juice in the stomach is not sufficient to produce vomiting. He attached the gall bladder to the stomach so that the bile could drain freely into the stomach without causing vomiting. Kaiser and others have demonstrated the normal presence of bile in the stomach after gastro-enterostomy. Moynihan has had one such case in a man in whom as a result of a duodenal trauma, all the duodenal secretion entered the stomach. There was no vomiting.

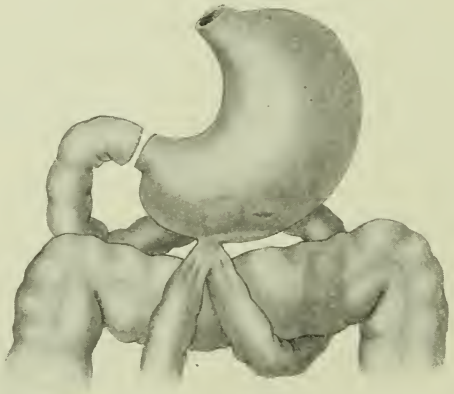
In the report of the case which follows, the cause of the regurgitant vomiting will be found due entirely to adhesions. The jejunum about ten to twelve inches from the gastro-enterostomy opening on the distal loop, became adherent to the anterior wall of the stomach, producing a long loop just as in an anterior gastro-enterostomy, except that the loop was distal to the enterostomy opening.

Mr. B., age 48 years, has for the past ten years suffered from pain in the epigastrium, otherwise both his personal and family history are negative. His present trouble began in July, 1907, with constipation and severe pain in the region of the stomach. He was suddenly awakened one night by a desire to vomit. The vomitus contained a large quantity

of blood, both fluid and clotted. Since this time he has been having pain after eating, frequently immediately after taking food, more often three or four hours after meals. The pain was at times relieved by eating. He often vomited at night. Distress, fullness and erucation of gas were often present. At no time did the physical examination reveal more than an exquisite sensitiveness in the epigastric region to the right of the median line.

A diagnosis of gastric ulcer was made in October. At this time the pain was very severe, the patient being unable to take even a glass of milk without great distress. No blood was found in the vomitus at this time. An examination of the feces on several occasions gave a positive blood reaction.

Repeated stomach analysis failed to reveal a marked retention. The amount of content after an ordinary Ewald test breakfast varied from



Showing adhesions of jejunum to stomach.

three to five ounces. On one occasion a small amount of fat was found, taken on the previous day. There was not a high degree of superacidity. Free hydrochloric acid varying from 57 to 78. Total acidity varying from 75 to 90.

An ulcer cure was advised and carried out for three weeks without any appreciable benefit. In December a second and more rigid cure was carried out for five weeks. The patient was benefited by this cure, but was not entirely free of symptoms. From March to the latter part of August, a period of more than eight months, the condition of the patient was very satisfactory. At this time the old symptoms returned. On September the second, when the patient was again seen, he showed marked emaciation. He had been vomiting for several days and black particles were present in the vomitus. On the same night, he vomited a large amount of blood as also the following morning.

The patient entered the Jewish Hospital and was operated on October the sixth. A large pyloric ulcer was found. In that no obstructive

symptoms were present, the pylorus was excluded from the duodenum and a posterior no-loop button gastro-enterostomy was done by another surgeon. The patient was up in a chair on the eleventh day. The button was passed on the thirteenth day. On the fifteenth day, the patient began to complain of sour stomach and he vomited eight ounces. On the following day a pint of fluid and undigested food was vomited. Lavage was now employed daily, otherwise the patient vomited large quantities. The vomitus and lavage was never bile stained, but contained undigested food only. The urine and stools were very scant and the patient lost a great deal of weight. Temperature and pulse were normal. A diagnosis of closure of the gastro-enterostomy opening with gradual starvation was made.

On November the nineteenth, about six weeks after the first operation, I saw the patient in consultation. The following morning I operated. The abdomen was entered through the old incision. Very firm and abundant adhesions were encountered. The old gastro-enterostomy opening had closed completely. With great difficulty, owing to the adhesions and anatomical changes from the previous operation, a suture posterior no-loop gastro-enterostomy was done. The opening was made in both the stomach and jejunum as close to the old opening as possible. The patient made a very satisfactory operative recovery. He did not vomit once after the operation until the twelfth day. He then vomited bile stained fluid, but no undigested food. Up to this time the patient had been taking an average of fifty ounces of liquid nourishment every twenty-four hours and had been sitting up since the ninth day. After the twelfth day he vomited large quantities of bile stained fluid, unless releived by lavage.

On December the twelfth, I reoperated, again entering the abdomen through the old incision. The adhesions were more pronounced than at the previous operation. A loop of jejunum about ten or twelve inches distal to the gastro-enterostomy opening, was found adherent to the anterior wall of the stomach, being thrown up over the transverse colon as in an anterior gastro-enterostomy. This adhesion was so firm that it was at first thought to be one of the gastro-enterostomy openings. While this was recognized as the probable cause of the vomiting, to be safe, a button entero-enterostomy was done with difficulty, in that the proximal loop of bowel was very short.

The patient vomited twice within the first twenty-four hours after operation. Since this time he has not vomited. He took nourishment within the first twelve hours after operation, and by the twelfth day he was receiving a very liberal diet. He left the hospital on December the thirty-first weighing 121 pounds. His normal weight was 175 pounds. The patient has been seen by me frequently since the operation. He feels well and is free of all symptoms. When seen on May 6th, he weighed 180 pounds, a gain of sixty pounds in four months.

This case serves to demonstrate two very important factors in

stomach surgery. First that the use of the Murphy button is not always safe, even in those cases in which the pylorus has been excluded. I have, within the past ten days, seen another case of closure of the button gastro-enterostomy reoperated by another surgeon. The closure occurred just one year after the primary operation, at which time the pylorus was also excluded. Up to this time the closure of the new stoma in such cases has been regarded as practically impossible. It is surprising that no cases have been reported of closure after pyloric resection for carcinoma with a button gastro-enterostomy, which was at one time so generally done and is even to-day the method employed by many. This may possibly be explained by the small number of cases in which life is greatly prolonged or a permanent cure obtained.

Secondly the case demonstrates how varied the causes of regurgitant vomiting really are, making the treatment of this condition entirely dependent upon the findings in the individual case. In the one case the simple freeing of adhesions is sufficient, while in others an entero-enterostomy with a closure of the afferent loop may be necessary or a Roux's operation may offer the surest way of turning the current in the normal direction.

CORNEAL ULCERS AND THEIR TREATMENT.*

By Samuel G. Kelly, M. D., Sedalia, Mo.

Corneal ulcers need no introduction. Like the poor, we have them with us always. As opthalmologists we may fear them, and as men we may dread to think of their havoc. As the brain controls the body, so does the cornea control our light and sight. When we consider that about twenty-eight per cent. of all blindness is due to corneal opacities in one form or another, we must admit that this portion of the optic tract requires our careful and earnest consideration. And yet, as a literary topic, it seems as though all have thought "nuff said" and let it go at that. Let us again emphasize the gravity of these cases. We all have a large number of them to deal with, and while the majority are minor in degree, yet a great many are disastrous to sight, and some even to life itself, and from me they demand a very respectful attitude. How a small abrasion can cause so much trouble is scarcely preceptible, yet a small lesion in no other part of the human anatomy can be so disastrous. The cornea is an excellent culture media after the shell is once broken, as it were, and nature seems to be at fault in not being able to better cope with corneal infection, and still more at fault in not being able to replace itself with normal tissue. A corneal ulcer results from the infiltration stage failing to terminate in absorption, thereby causing a destruction of overlying corneal tissue.

As to the etiological classification, we may say ulcers result from trauma, infection following; or from softening of the corneal epithelium due to some systemic disorder. So far as is known corneal ulcers are exogenous. Trauma, the chief etiological factor, may result from stab wounds, blows, foreign bodies in the eye, burns and some irritation from the lids or misplaced cilia. Systemic disorders may be syphilis, tuberculosis, scrofula, anemia, paralysis of the ophthalmic division of the fifth nerve, conical cornea, goitre and lagophthalmos. As to bacterial infection, we may have several germs participating or we may have a single infection. The eye is never sterile. We may find the germ present in corneal ulcers to be the ordinary pus cocci, the colon bacillus, the pneumococcus, the gonococcus or, in rare sloughing ulcers, we may find one of the fungus growth. These ulcers are no respecters of persons. They are found in all classes and all ages. True, we find them more among the poor and slovenly people, and mostly in adults. The same class of ulcers may be entirely different on account of the characteristics of the patient. In cities, the virulence of an ulcer is usually much exaggerated in the slums over patients in more hygienic surroundings; in fact, some of

*Read in the Eye, Ear, Nose and Throat Section, Fifty-second Annual Meeting, Missouri State Medical Association, Jefferson City, May, 1909.

my worst cases have been among the slovenly people, who persist in getting the dressings off between treatments; these people are poorly nourished as a class, which of course reduces their resisting powers; also among the poorer class the liability of corneal abrasion is greater and infection more frequent. Children rarely have corneal ulcers, except those following interstitial keratitis and some conditions which will be described later.

In classifying ulcers I want to consider more particularly the important forms of ulcers; also I desire to lay stress only on the forms we meet each day. I will consider the pathology under each class in a general way; also the symptomotolgy.

First: Simple ulcers are by far the most common and easily treated and leave no bad after effects. They result from foreign bodies in the eye and from lid and cilia irritation. As a rule they heal without opacity and are of short duration.

Second: Round ulcers are the sequelæ of more severe forms of conjunctivitis, trachoma, and injuries to the cornea which have passed beyond the stage of simple ulcer. Bowman's membrane is usually affected and so usually leaves opacity. They present a clear bottom and are surrounded by an infiltrated area. They are chronic in nature, and while they do not tend to perforation, they often have hypopyon associated with them.

Third: Rodent ulcers are found usually in advanced life, and are caused by a lack of power in the tissues to resist infection, following a small abrasion. They appear near the corneal margin and are separated from the healthy tissue by grayish zone. Seldom is hypopyon present, and I have never heard of a perforation resulting from them. They are, however, deep and in healing leave opacity. This type of ulcer is very rare. I saw one case in Knapp's clinic, and it was truly a bad condition, the patient losing the sight of one eye entirely and the other was of but little service. After an ulcer of this type starts it predisposes to others, and the entire cornea is finally one entire mass of ulcerations. In the case I saw, numerous blood vessels passed into it, but seemed to be of no avail in checking the ulcer, as in other ulcers. Galvano-cautery was used and this seemed to be the only way of checking the invasion. A special bacillus is supposed to be the etiological factor.

Fourth: Ring ulcers are not an infrequent type, considering the more important types. They are said to be found mostly among the aged and decrepit, and while I do not wish to contradict, I have never treated a ring ulcer in a patient over fifty. My worst case of this type of ulcer was in a young woman who persisted in having a ring ulcer when she became pregnant. What the association was I was never able to say, as she was a strong healthy young woman and I was never able to find any dyscrasia which could lower her resistance at these times. But, be that as it may, during these pregnancies she had three ring ulcers, all of which cleared up very nicely, and as a prophylaxis I have

advised her to avoid pregnancy. I have also seen several ulcers of this class among railroad men following minor injuries. I have not used galvano-cautery and have not had any opacities result, except in one case, which would have resulted in opacity had I been able to save the eye. In this case the entire cornea sloughed out at the edges and I was compelled to enucleate the eye. In this case, as I say, I used the cautery, but I could see absolutely no benefit from it. These ulcers adhere closely to the corneo-sclera margin and often extend entirely around the cornea, leaving the center clear. Fortunately pain is not a prominent symptom and rarely is an iritis present, and it would be very unfortunate if it were as atropine in these cases, I think, is contraindicated; in fact I usually instil eserine.

Fifth: Atheromatus ulcers are rare. They are found in old corneal scars. These ulcers have a deposit of lime in them and are very prone to lead to perforation and panophthalimitis.

Sixth: Creeping ulcers is another rare form, but is one much to be dreaded. They are very painful, much lachramation and a terrific iritis being present, and hypopyon often develops. I have a case now under my care which followed a specific infection in the eye. This patient had all the side issues relative to this condition,—iritis, hypopyon and all the pain it was possible for a man to have from an eye. He gradually recovered and, while both eyes are far from good, yet under the instillation of dionin, his opacities seem to be clearing up, and I hope to be able to give him useful vision.

These ulcers present a characteristic appearance. They begin near the center of the cornea and tend to spread toward the periphery; the opacity is greater at the ulcer margin than at the center, and while they at first present a raised appearance they soon become depressed. Often the cornea sloughs dreadfully and, if unchecked, leads to a very dense opacity of the cornea and often phthisis bulbi. Perforation often occurs, in which cases the iris prolapses in the wound.

Seventh: Diffuse or multiple ulcer. This class of ulcers is one I expect to hear some criticism on, as the border line between them and keratitis is not clear. For some time I have been watching a limited number of these cases and have come to the opinion that there was a distinct difference between them and keratitis. They simulate a simple ulcer of a very minor degree and are found in children suffering from glandular conditions, such as adenoids and tonsils; also in anemic patients in early and middle life. They yield readily to treatment when properly instituted and are very prone to be chronic when the general condition of the patient is neglected. Under this head I want to recite to you two typical cases.

The first, a patient who was brought to me with the history of several attacks of "sore eyes," as the mother expressed it, always associated with a bad cold; they lasted for weeks, and in fact one attack was hardly over until another would begin. I learned that the little patient had always

been a mouth breather and her mother attributed this condition to her always having a cold. Examination of the eyes revealed the above condition. I found several small ulcers in both cornea and a diffuse opacity of the same which was not deep, in fact not nearly so extensive as one would expect considering the many attacks she had had. Examination of the throat revealed very large tonsils and an adenoid that almost occluded the pharynx. I advised the removal of the adenoid and tonsil, which was followed by a rapid clearing of the cornea, and in a very short time her eyes were entirely free from opacity.

The second was a young man who gave a history of repeated attacks of ulcers of the eye, which would disappear, always leaving a scar. He also gave the history of these ulcers following colds and tonsillitis. I found in his throat very large tonsils and an enormous nasal polypus on the right side of his nose. Having just passed through the former case, and realizing the importance which this nasal and throat obstruction might bear to the case, I first removed them and gave the patient a boracic acid solution to instill in the eyes several times daily. He improved at once, and in this case, as in the previous one, two years have brought no further trouble. Who can say this was a coincident? I cannot, as I have demonstrated it to my own satisfaction in other cases, though not of so long standing nor has so much time elapsed since their treatment..

Prognosis: As has been said, in most cases prognosis is favorable. Only in the most severe forms is the eye lost, and while the eye may take on a terrible aspect during attacks, yet with proper care they leave no bad opacity. As we know, Bowman's membrane must be destroyed to leave opacity. However, if the scar extends over the pupil when it does result, vision is destroyed or very bad. As long as the ulcer is foul we know not what will be its extent, but when it becomes clean, hope for the future may rise. When a pannus forms (which is usually transitory) prognosis is favorable as to time of recovery.

Diagnosis: Is made from inspection.

Treatment: Under this I feel at liberty to differ with some as to method of treatment. Where the virture in not putting a covering over an eye with corneal ulcer is, I cannot see unless the ulcer be so insignificant it does not need it. The idea of giving better drainage without a dressing is as absurd to me as it would be not to dress an abdominal incision. A tight bandage is not necessary, nor is it good, but a small patch of gauze aids in keeping out irritating lights and infectious material, and above all it gives your patient a sense of comfort that he obtains in no other way. If necessary, change dressing twice or more a day. Change them yourself and you will know they are as clean as it is possible to make them. I never give any patient liberty to dress his own eye any more than I would give a cataract patient the same privilege. As to medication, any treatment that is death to bacteria and non-irritating is good for an ulcer. My preferred and almost sole dress-

ing in these ulcers is a one-half of one per cent. hydrarg. flav. oxide. ung. put up by a competent druggist, and this I consider very important, as a great many druggists absolutely cannot make this ointment non-irritating. It should be triturated for at least an hour, and more if you can get your druggist to do it. When iritis is present you can combine it with atropine, or in cases of peripheral ulcers it can be combined with eserine. The principal thing in treating corneal ulcers is to get the eye as nearly sterile as you possibly can. When this is accomplished it is impossible for an ulcer to progress in the eye any more than in any other media. I always use atropine in these cases if I have the least intimation of an iritis. This assists in alleviating the pain and very few patients suffer any ill effect from it, although I have used it, where I have extensive adhesions, as much as six grains to the ounce, either in solution or in an ointment. When the ulcer is near the periphery I nearly always use eserine and in many cases this prevents prolapse.

Aspirin prevents and controls pain better than morphine in many cases and does not lock up the secretions. One "don't" I wish to emphasize—don't use the cautery if there is any chance to save the eye without it, for in my opinion if the cautery is used extensively enough to be of any service it will result in opacities.

In case where we have hypopyon it is necessary to tap the anterior chamber, and in doing this the smallest incision that is possible to make and expel the pus or exudate is the best for the eye. I even prefer to tap the eye more than once rather than make a large incision. As to the treatment of the ulcer with lysol or carbolic acid, as is being done by some men extensively, again I cannot see the benefit to be derived from their use. They are very active caustics and very likely to be uncontrollable in which case they certainly leave opacities. My opacities have fortunately been a very small per cent. and I have trusted to the mercuric ointment in most cases. I believe that it is good treatment to remove the lachrymal sac in sloughing ulcers if we have any infection of the same. I have only used the cautery twice in ulcers and neither time did I think it was of any material benefit.

DISCUSSION.

Dr. Guy L. Noyes, of Columbia, said proper protective covering is very essential, especially with mild degrees of pressure; healing is more rapid and favorable. He had not found yellow oxide ointment to be as useful in the early as in the late stages of corneal ulceration; probably for the reason that its favorable action depends upon its stimulating properties. He had never seen bad results from the use of the cautery, but had sometimes regretted not having used it.

Dr. W. H. Schultz, Kansas City, stated that in corneal ulcers other than the superficial variety, one of the following operative methods is indicated, viz.: curettement, electro-cautery or paracentesis. Irritating

medicinal applications I have practically abandoned. Hot applications and atropine instillations are always indicated.

In threatened perforation a continuous pressure bandage is applied and patient is allowed to remove same only for local treatment. I think yellow oxide ointment is too irritating, therefore, contraindicated in the acute stages of corneal ulcers, but later on when repair has set in, it may be used with benefit.

In my experience I have secured the very best results from the use of iodoform powder and dionin in the form of an ointment.

Dr. John Green, Jr., St. Louis, said he had never used eserine in corneal ulcers, but could imagine cases in which it would be indicated. It was, however, an irritant and ordinarily contraindicated. A concomitant conjunctivitis should be treated, preferably with a weak solution of silver nitrate. He curettes the ulcer and then uses tincture of iodine. A mild topical application efficient for cleansing is 3% solution of quinine bisulphate. The multiple ulcers mentioned by the essayist are probably phlyctenulæ. He uses atropine, almost invariably combined with cocaine in an oily solution, which prevents the desiccating action. He would not advise paracentesis for every case of hypopyon.

Dr. J. D. Pifer, Joplin, said he floods the eye affected with a small ulcer, with hot boric acid solutions. He also advises hot applications, but not poultices. He gives purgatives, prescribes daily baths, better hygiene and good nourishment; also iron, cod liver oil, etc. He also uses atropin, but never uses eserine. The cautery is unnecessary in mild cases. He cleans out the ulcer and dusts calomel in the corner of the eye. If the ulcer does not improve, he then uses the cautery in the form of carbolic acid on a fine cotton-wound probe, neutralizing it with alcohol, following this with orthoform. In the later stages he uses the actual cautery; bandaging the eye is bad, as it increases the intraocular pressure. He leaves the eye half open if possible, and always treats the conjunctivitis.

Dr. Kelly, in closing, said that yellow oxide is stimulating and non-irritating, when properly prepared, and may be used in any stage of the disease. The multiple ulcers of which he had spoken were not phlyctenular. Hot applications are all right, but not as poultices such as are invariably used by patient. He does not invariably use atropin, which is only indicated in iritis. Iodoform does no good in the eye. A bandage properly applied produces no pressure, and can be changed often enough to prevent retention of secretions.

RELATION OF THE PHYSICIAN AND SURGEON IN APPENDICITIS CASES.*

By A. B. Miller, M. D., Macon, Mo.

I cannot hope to say anything new on this much over-written subject. My apology for appearing before you in this paper is, that, notwithstanding the accumulated knowledge and the experience in the treatment of this, now well and usually easily recognized disease, the death rate still remains large, and the long overdue minimum mortality table does not appear.

It is evident that in the last five years the mortality from this disease has not diminished, or, if diminished at all, very little. It is profitable, sometimes, as the merchants say, to "take stock," "to invoice," and see where we stand. Let us ask ourselves the question, what is the matter? Why does not our mortality table show greater improvement? There must be a wheel in the mud somewhere, effectually barring the progress most certainly warranted by the accumulated knowledge of this disease and experience in its treatment.

The technique and skill of the surgeon are greatly increased; his knowledge of all the different phases of the disease, together with its complications, has greatly enlarged; likewise the general practictioner has made substantial progress in his knowledge of the disease. Then where does the trouble lie? Who or what stands in the way of a minimum mortality?

A well-grounded suspicion that a lack of proper accord between the surgeon and physician relative to the treatment of this disease is largely responsible for a too large mortality, prompted this paper.

In extenuation of the sins of the physician, if he has any, it is just to say that the unwarranted enthusiasm of surgeons of the "keen-cutter" class, has necessitated a more or less ultra-conservatism upon the part of the physician, and has given real occasion for lack of faith in his wisdom and judgment. Indeed, sometimes, such are the encroachments of surgery upon the medical field that the physician has begun to wonder if perhaps he, too, must be driven to take up the knife, or relinquish his title.

Then again, a great stumbling block to the general practitioner has been the lack of accord between the surgeons themselves, for it must be admitted that the surgeons have not agreed among themselves until quite recently as to the treatment of appendicitis; some advocating one course and some another, until the general practitioner has been unable to de-

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termine whom to believe or what course to pursue. For how could he be expected to be in accord with surgeons among whom there was no unanimity of action? My first postulate therefore, will be, let the surgeons get into practicable accord in the treatment of this disease.

At the very threshold of this discussion an important question arises, which, if it can be satisfactorily settled, will go far towards clearing up the situation and bringing the physician and surgeon into proper accord, a consummation devoutly to be desired and without which the minimum mortality table will never appear.

This all important question is: Is appendicitis a medical or surgical malady? This question once settled, a long stride has been made toward the desired goal of a more perfect unanimity and a minimum mertality. Here is where the first note of discord arises, and physician and surgeon begin to drift apart. How can we settle this question? Come, let us reason together in the interests of the thousands of unfortunate victims to this dangerous disease which the future has in store for us.

The plan of treatment which furnishes the lowest death rate, the surest cure, the permanent cure, and the least suffering, certainly ought to be the one adopted. No one can deny that this is a reasonable and fair proposition.

Now let the physician and surgeon stand up and each show us what his results are, and then we will determine into whose hands we desire to fall, as victims of appendictis.

It is only by comparative study of the results obtained, as presented to us in the various statistics, both medical and surgical, that a definite conclusion can be reached. In studying these statistics, let me preface my remarks with the suggestion that it will be impossible for medical statistics to be as accurate as surgical statistics are, because they can never eliminate the many mild cases reported as recoveries from appendicitis, where the diagnosis was doubtful and probably wrong; whereas, in surgical cases, the element of doubtful diagnosis should never enter. The most favorable medical statistics I have been able to find are those by Salhi in which he reports seven thousand cases medically treated, with a death rate of 10 per cent. This is a far less mortality than that usually presented by medical authorities. Most of them place it as high as 15 per cent. to 20 per cent.; some at 20 per cent. to 25 per cent. I am sure that the latter would not be too high for the physicians of average experience. Neither are we told whether the physicians reporting the seven thousand cases which Salhi gives us had numerous other cases saved by the surgeon that would otherwise have died. I know of no hospitals in the country where cases are treated alone medically; if such exists elsewhere they have not come to my knowledge and I feel inclined to doubt the value of his statistics. I am quite positive no such statistics that would be entitled to credence could be collected in this country.

Now let the surgeon testify. Morris says that in primary opera-

tions, 2 per cent. mortality is too high. Mynter's results are about the same as Morris'. Many surgeons claim an equally low mortality. Jacobson places the average mortality for all surgeons at 5 per cent. to 8 per cent. in primary operations.

It does not take me long to decide whether Salhi or Morris would treat my appendix. Is it right, when a confiding individual is sick and entrusts his life to us, to use any method in his treatment if we know of a safer and surer route to health?

But, to go back to the original question, is this a surgical disease? While all the medical authors include appendicitis among the diseases described, and appear to consider its classification among medical rather than surgical diseases, yet we will quote from a few leading medical authors, allowing them to speak for themselves.

Tyson says: "As soon as appendicitis is suspected, pending diagnosis, the surgeon should be called and associated in the case." Wilcox says: "Medical men are agreed, if ice locally, rest and opium, do not improve the situation in from 24 to 48 hours, call the surgeon and operate at once."

Osler, in his 1909 System of Medicine, says: "Medical men as well as surgeons, recognizing that it is often impossible to determine when an apparently benign case will terminate in sudden extension or rupture, with the development of general peritonitis, believe that it is usually wiser to regard every case of appendicitis as demanding surgical treatment." Again, he says: "Barring a few cases in which contra-indications exist, the only safe plan in the treatment of acute appendicitis is immediate or prompt operation."

Now, mind you, these are medical authorities, whose opportunities for observing the results of surgical treatment, as compared with the very best possible methods of the internist, should entitle their opinion to great weight. Are they right, or are they wrong? If right, will the physician please explain why the advice of such illustrious medical men of such ripe experience, is not followed. Ponder this in your hearts. Tell me why should appendicitis be classified among the medical diseases any more than salpingitis. The former slays its thousands while salpingitis slays its hundreds. And I can see no good reason why the latter should be classified as a surgical disease and the former as a medical disease.

The great frequency with which this disease occurs makes its consideration of far greater importance. In eight of the leading hospitals of this country one in every ten surgical operations is for appendicitis.

Now let us study the two methods of treatment in detail. What advantages does the treatment of appendicitis by the primary operation offer?

First, the lowest possible mortality that can be obtained.

Second, relapses will never follow.

Third, the incision is small, drainage usually unnecessary and hernia unlikely to occur.

Fourth, the duration of the disease is much shorter.

Fifth, by primary operations, suffering is greatly curtailed.

Sixth, septic infections are avoided.

Seventh, serious adhesions, giving rise to mechanical obstruction, attacks of colic, indigestion and general ill-health, unlikely to follow.

Eighth, such complications as phlebitis, metastatic abscess, embolism, general peritonitis, etc., will not occur.

Ninth, no fecal fistulæ follow.

Tenth, operation much less formidable and will not be so much dreaded.

Disadvantages. First, some weakening of abdominal wall.

Second, the patient wears a scar.

Third, some bellies may be opened in which disease is not found.

From the foregoing it would seem that the advantages are numerous and of great weight, while the disadvantages are trivial.

Now, let us consider the disadvantages of medical treatment:

First, higher mortality, average of 20 per cent.

Second, there is absolutely no remedy that the physician can claim has any specific action.

Third, recurrence is common, occurring in perhaps 25 per cent.

Fourth, recovery in 40 per cent. of the cases is only apparent, not complete. Some authors place this per cent. much higher.

Fifth, the impossibility of knowing when the appendix is not gangrenous, or will not become so, and when general peritonitis will not supervene.

Sixth, the following complications and sequelæ may be encountered: General peritonitis, general sepsis, abscess, single or multiple, transportation of septic emboli to the liver, lungs, kidneys, spleen, brain, parotid gland or heart; albuminuria, chronic nephritis, obstruction of ureter, with hydronephrosis, deep pus formation impossible of drainage, ileus, extensive adhesions giving rise to mechanical obstructions of the bowels and to attacks of colic, constipation, indigestion, anæmia and indicanuria, septic thrombosis in the liver, lungs, brain, kidney, mesenteric and hepatic veins, and, in fact, anywhere.

Osler reports a case of fatal hemorrhage into the intestine. Leudet reports hemorrhage into the arachnoid. Woolbrecht, in Gerhardt's clinic, found evidence of pleuritis in thirty-eight per cent. of cases medically treated. Pyosalpinx, ovaritis, pelvic peritonitis, cystitis, abscess of bladder wall, fecal fistulæ, pericolic, subphrenic and pelvic cellulitis and abscess.

Every one of these complications, and perhaps many others, has occurred in cases medically treated, and every one of them confronts the unfortunate victim of appendicitis, who must rely upon the resources of the general practitioner for relief.

A simple, uncomplicated, inflamed appendix is not a serious thing; nor is the operation for its removal either difficult or fraught with much danger. Why, then, allow it to become a serious and dangerous disease, fraught with difficulty to the physician and great danger to the life of the patient?

If these be facts, let us treasure them up in our hearts; and if they are not facts, show me my error.

In this day, when the ambulance-chasing lawyer is abroad in the land, it would be a dangerous thing to say in print that it is criminal to allow a simple inflammation of an appendix to become a serious inflammation, involving vital organs and greatly endangering life. But I should consider my defence poor, and should be at a loss to know where to turn for medical or surgical authority to sustain me in such a course.

Unless the foregoing facts can be controverted, appendicitis should be considered a surgical disease. The surgeon should be associated with the physician at the earliest possible moment, and the two should be in close relation in the case, that the question of time of operation may be wisely decided. The surgeon is usually called from the third to the twenty-fifth day of the disease, after the condition of the patient has become extreme or desperate, and he is called to operate usually as a *dernier resort,* having no choice in the matter as to time of operation. Often, also, he is called after operation has been decided upon and the patient and friends are expecting an operation, which creates an awkward situation and places both surgeon and physician in an embarassing position. This is especially likely to occur in late operations.

I am insisting upon the necessity of better concurrence in action upon the part of physician and surgeon in these cases; their early association and a more practical unanimity in their efforts. Surely none of us has too much wisdom and knowledge, and few of us enough, to handle these cases in the best interest of the patient. These remarks are particularly applicable to the cases that have passed the primary stage, for there will always be such cases that have already gotten into the stages where mazes of doubt and uncertainty obscure our way, and the anxious hours drag their weary lengths along because of our consciousness of our groping, and the utter insufficiency of our knowledge of what is going on and what is going to happen in the belly of our patient.

There is unanimity among surgeons as to primary operations. This is the only ground on which unanimity can ever exist between the physician and surgeon. The primary operation in appendicitis, removing the organ during the first day avoiding all the serious complications likely to follow if operation is deferred, rests upon the same rational basis, as the removal of a little lump in the breast before it has grown to involve the whole breast and axillary region. It is not an extreme measure and its advocacy is not unwarranted. In conclusion I submit to you this question: Wherein does conservatism lie? In the prompt removal of an inflamed appendix by primary operation, or in the expectant plan of

waiting and depending upon medical treatment and facing the dangers that beset your pathway? Decide for yourselves. I have already decided.

DISCUSSION.

Dr. John D. Seba, Bland: The question whether appendicitis is a medical or a surgical disease has been answered by Dr. Miller. It is undoubtedly a surgical disease and we should tell the patient, as soon as the diagnosis is made, that it is a surgical disease and that he should be operated upon as soon as possible, because no one knows what is going on within that appendix. The condition may be such that it may result in a rupture, peritonitis and death. I believe every community, or at least every county, should have one man who will go every year and take a postgraduate course and be ready at any and all times to perform an appendectomy when called upon.

Dr. F. G. Nifong, Columbia: I have had some experience in the country and have seen something of the treatment of appendicitis, in the country as well as in the city, and know the failures as well as the successes of the surgeon. I think the paper is very timely. It hits the point that needs to be emphasized, *i. e.*, why is not the mortality decreased? With all our skill as physicians and diagnosticians, whose fault is it? It may be the fault of the surgeon or the physician. There are too many unskilful surgeons, who cut into the belly headlong; but maybe it is not as bad to rupture an abscess sac as to have an abscess sac. Whose fault is it? The trouble is, we are not yet skilful enough in making the diagnosis in this common disease, and, when we do make the diagnosis, we are not prompt enough in calling a surgeon and in recognizing that it is a surgical disease. When the physician gets to that point I am sure we will have a lower mortality.

Dr. J. B. Norman, California: There is no question but that appendicitis is a surgical disease. By that I mean that the final treatment of every case is surgical treatment; but we are confounding the cases of appendicitis. A pustular appendicitis requires an incision at once and any general practitioner can make an opening under proper precautions. But in catarrhal cases the treatment is medical and then when the inflammation has subsided, the surgeon can take the case.

Dr. H. B. Cole, Sedalia: I would like to hear a discussion of this paper. There is nothing with which I come in contact in the treatment of disease that causes me more worry. I want to hear what you have decided to do.

Dr. Miller, in closing: I am free to admit the surgeon has committed many sins. I have committed some myself. After the period for primary operation has passed, no man should touch the appendix until after abscess formation. The primary period may be delayed until the second day. When the infection has spread beyond the appendix and the area around it is infected, I would rather depend upon the omentum

that stands on guard—I would rather trust to that for localization than to any surgeon I know. Why do Dr. Morris and Dr. Deaver have so low a mortality and we so high a mortality? Because, they see their patients within the first twenty-four hours and we see them up to the twenty-fifth day. When we have the coöperation of physicians we will have the same low mortality. How are you to get these cases on the first day? Never, until this body of men recognizes the necessity of getting the patient to the surgeon and having this operation done as soon as the condition develops. When the people know that this little lump can be removed safely, they will be more ready to call in the surgeon. I want to go on record as being in favor of the primary operation in appendicitis as the method that will save most lives and make the most permanent cures.

OUR OVERSTOCKED INSTRUMENT CASE: A PLEA FOR SIMPLICITY IN OPERATIVE PROCEDURE.*

By Fayette C. Ewing, M. D., St. Louis, Mo.

Style in writing is always a reflex of the author's personality and often of his knowledge of his subject. It is the clothing in which we present ideas. The best style is the simplest, just as the most elegant habiliments with which we adorn our person bear the element of simplicity. Simplicity in expression, as we have said, conveys the idea of knowledge in that clear and concise expression indicates clarity of vision, the mastership of our subject. A very limited vocabulary only is necessary to express all that the human mind knows of any subject, and all the rest becomes mere verbiage if employed where simpler words may convey the idea. Some of the greatest stylists have been men, like Boswell, who was not elaborately educated, and did not turn naturally to words, but they knew their subject, as Boswell knew Johnson, and found no difficulty in writing what was clearly in their minds. We have but to read half a page in any ordinary dissertation, to apprehend the writer's clarity of vision and somewhat comprehend his mastery of his subject. His personality is stamped upon every sentence, and he may not escape the judgment.

This suggests the multiplicity of drugs in diseases where no specific is known, inevitable because of uncertainty. Medicine being so inexact a science in many conditions, therapy becomes largely empirical, hence, most of our so-called treatises are a mere rehash and enumeration of what has been said before. The author fears to put the stamp of approval on a certain drug for a given disease, and ends by saying that Dr. Smith got excellent results from the employment of one thing and Dr. Jones claims a cure from using another. When our author has discovered a specific or is aware that a particular drug has been proven efficient by the sifted-out experience of the profession, he does not hesitate with his *ipsedixit;* he knows whereof he speaks, and is in the position of the accomplished stylist in writing. The idea becomes definitely his own, and he acts upon it with the knowledge of assurance, directly and without deflection. When we have a specific, the prescription is loaded with a single bullet; the shotgun prescription is always a confession of uncertainty.

And here I must ask your indulgence a moment, if in this connection I refer to a fault in all our books. Most of them are mere dictionaries or encyclopedias of what the many have said. The author fears to dogmatize; he does not hazard his opinion in any unequivocal way; he tells

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you but very little of what *he* stands for, and is seemingly so anxious to make his work complete, to include everybody from A to Z that he leaves out "I." This is because he really has no message. When the real master appears, then we find the personal equation, and his book becomes a classic, as in the case of Mackenzie, Trousseau, and Osler. How much better it would be for us if our authors would simplify their writings and confine their recommendations to what they have had the best results from, letting the profession judge of their value by the knowledge of the author's recognized achievements. Then we might have more manuals and monographs and fewer general treatises, but each contribution would have the stamp of authority, such as it might be, and we could look to works on materia medica and therapy for the long list of indications in the various maladies suggested by others. It is Trousseau's personality that illumines his pages and makes them live; and how much of real value has all the world contributed to rhinolaryngology since the master Mackenzie wrote *himself?* How large would be the catalogue that would contain a list of his instruments, how thick the therapeutics that would enumerate his drugs? Perhaps no single work offers a better model of abbreviation than Osler's *Practice,* which, discussing the broad field of general medicine, reduces "treatment" to a minimum, in other words, to what Osler actually knows or believes in. And Osler is the most distinguished name in modern medicine. Osler's book is already a classic; and let it be ever remembered that the book did not make Osler great,—Osler made the book great. And so we see that in all these things simplicity comes of certainty, and certainty tends to simplicity. Let us take this affirmation as the keystone upon which will be built the arch that will support our contention in discussing our overstocked instrument case.

Dr. E. P. Cook, in a recent article on "Modern Surgery," dwells upon the tendency to operative simplicity. He says:

"Most of the important surgical procedures have been greatly simplified during the last decade. * * * The same simplifying tendency is also seen in the matter of instrumental equipment. A few years ago it was the ambition of every teacher of obstetrical forceps to perpetuate his fame. The variety of forceps was only limited by the number of professors. According to the most advanced view of to-day, a single pair will suffice to meet every need. Likewise, the Sims speculum and its various modifications have rendered obsolete the imposing array of bivalve, trivalve and multivalve specula which formerly encumbered the gynecologist's table. It is another instance of the simplifying influence of the discovery of the true principle underlying a given procedure."

If this is true of general surgery and gynecology, it surely is not the case of oto-laryngology, where the very reverse obtains. For we bid fair to be inflicted, if we not already are, with a pest of useless instruments to the menace of practitioner, patient and dealer; indeed, this

multiplication has been going on at a questionable rate, and while we may not dissociate it entirely from a laudable desire to increase our resources for fighting disease, candor compels me to say that the genesis of most of this output is found in a desire for self-exploitation. Of course, if no one tried to improve upon our instruments, operative progress would be retarded, but too often judgment is wanting or is subordinated to a desire for professional notice,—I shall not say notoriety, for it is an ugly word, and not in place among ethical practitioners, I cannot say fame, for the means involved are too petty to be coupled with greatness. Hamerton declares that disinterestedness is the indispensable of the many qualities necessary to the intellectual life; and by intellectual life he did not mean bookishness, nor even education, since a man could think intellectually with neither. He had in mind clear thinking, the capacity to grasp the truth. Our courts recognize this, as the slightest personal interest is sufficient to disqualify a judge. It is certainly a hard thing for our judgment to be clear in matters of personal interest, but if it were always possible to eliminate self when we think to add to our overstocked instrument case, I am sure that the increase would be much slower than it now is.

As an independent specialty oto-laryngology is only about twenty years old, and even now does not receive the recognition that ophthalmology does, since general practicioners habitually encroach upon it in all but the most obscure and complicated maladies. Yet there are instrument houses in our most important cities dealing in ophthalmologic and oto-laryngologic instruments exclusively, most of which come under the latter specialty, publishing catalogues of ample pages an inch thick. Why this formidable armamentarium? Is it because we have discovered so much since Mackenzie, or have become so much more expert in operating? Will any of us, not given to egotism, having the power to "see things whole," affirms so much? Or, in the words of Dr. Cook is it not too often that the oto-laryngologist thinks to "perpetuate his fame," which, however, ends in his being "clothed with a little brief authority." When we contemplate the innumerable forceps and curettes which are recommended for so simple an operation as adenoids, or the monstrous array of scissors, punches, hooks, knives and shaves, employed for turbinectomy, can we believe, with Dr. Cook, that "the same simplifying tendency is also seen in the matter of instrumental equipment" that he affirms is true of general surgery? Surely they are not "an instance of the simplifying influence of the discovery of the true principle underlying a given procedure;" surely the variations in shape and size of the organs do not justify such a hodge-podge. For tonsillotomy we have hot and cold snares of different sizes, tonsillotomes that are small and large, that cut smooth and scoop out; scissors, knives and electrodes as if tonsils were as many and varied as much as men's minds. Yet it is hardly possible to pick out a special journal and not see a new instrument exploited, nor are we spared when we open the pages of a

general journal. Few indeed of these instruments have the novelty of newness to commend them; they are usually but modifications, often very slight, of those already familiar to us which have been accepted as the ultimate of our necessities, considered in their serious aspect, they occasion the manufacturer expense, increase the stock of the dealer, confuse the young and inexperienced practitioner, tempt the older to a useless trial, are a menace to the patient and disgust the laity. By adding to the expense of the manufacturer they compel higher prices, and the same may be said of the small dealer who requires more money to conduct his business and suffers losses in dead stock which he must make up out of the practitioner. It is true of all manufactured articles that their cheapness is in proportion to the generality of their use, hence, fewer instruments would increase their employment and lessens cost. They confuse the inexperienced practitioner having limited means for equipment, and tempt more discriminative men to give a trial to that which is often highly endorsed and has the additional approbation of the editor who publishes the article. They are a menace to the patient in that they displace approved instruments with whose manipulation and employment the operator is familiar and expert, and finally they tend to disgust the laity stimulating their fear of operation by the largeness and formidableness of their array. In the catalogue of a Chicago house I find listed thirty nasal specula, seventeen nasal applicators, twenty cutting forceps, seventeen nasal scissors, and twenty adenoid curettes. In making up this list I have counted by names, hence the number may be multiplied as there are often as many as three sizes to some of these instruments. These, of course, are not all of the instruments recommended for these different conditions, but are simply what is listed in the catalogue of one house. They are suggestive of the multiplicity of recommendations for other indications. A rhinologist who has done some original work in the submucous resection of the septum, presents nearly twenty instruments for this operation, which requires extreme delicacy of manipulation but is simple, so far as multiplicity of instruments is indicated. To these many other men have added. A conventional mastoid equipment from the specialist now includes fully fifty instruments. How else, except through stress of desire to be original, counting it a mark of distinction to do things *in a different way* from the usual, are we to explain the operation of adenectomy through the dark and narrow nares when we have the amplest space and more definite illumination with post-nasal mirror and palate retractor? or the introduction of an uncontrolable, jagging, electrical saw as a substitute for the precise manipulation of a hand saw in the removal of nasal spurs? or what shall we think of a spoke-shave, "going it blind," for turbinectomy when a delicate scissors manipulated by the fingers in full light will do the work with accuracy and ease? These are but a few recommendations of men of large reputation, who should be ashamed to advance such malpractice methods. They "make the judicious grieve," and are a com-

mentary on what men may be led into, how their judgments may be clouded when self is at stake.

What is the remedy? Common sense. Unfortunately that is not always available. To a certain extent the manufacturer may discourage this pest, but he is not often capable of decision as to the practical value of an instrument. It would seem that it would pay the manufacturers to consult other authority than the originator before going to the expense of getting out a new instrument. The editor who publishes the article is, to a certain extent, blamable, but having officiated as associate editor of a leading journal devoted to oto-laryngology for years, I know how much tact is required to turn down a contributor. When a man is distinguished it is well nigh impossible without creating bad feeling.

And after all, is not this overflow an evidence of operative weakness? A man who knows definitely what he is going to say does not need a dictionary of words with which to express it; the physician having a disease to treat will not write a shotgun prescription when he has a specific, the author does not record a dozen remedies when he knows by experience of the profession that one is a positive cure, nor will the master operator require twenty instruments for a submucous resection nor fifty for a mastoid. They proclaim a weakness in our operative technique retarding our accuracy and delaying the operation. The operator on a mastoid with his pan full of superfluity, gropes before he selects, tries this and that in a vain hope for something more adaptable to the particular recess or protuberance when a more accomplished and accurate mastery of the few would facilitate his work. Instead of using his instruments they use him; he feels his helplessness without their multiple presence. He learns to accentuate the importance of that which he would be better off without, and his confidence in his capacity to do his work is correspondingly impaired if he happens to find himself without them. In his adaptability to emergencies, his ability to improvise, the country practitioner is far more resourceful than his city confrere, because of the necessities of his situation, and I doubt not that many of you specialists of small cities, where you are compelled to rely upon what you have at hand, do more creditable, if not better work than we of the great cities who have but to go around the corner to get any instrument we imagine we need. Confronted by some emergency, away from our base of supplies, our helplessness often becomes apparent. This reminds me of the story of Sir John Lubbock's queen ant which he confined in an enclosure full of food. But the queen not being practiced to help herself was in the way of starvation until a slave ant was introduced. This thrifty little creature soon busied herself in putting things in order, and feeding the queen, who waxed fat and beautiful.

One of the most distinguished surgeons of this Association once said to me, "when I feel that another can do a thing in a better way than I, it is my duty to refer the patient to him." But "better way" does

not necessarily mean *different way,* and we should have a care lest we think that in doing things in a different way we are doing them in a "better way."

If the specialist is to justify his existence it is through his capacity *to do things in a better way than his non-specializing competitor—with more safety to the patient, less expensive adjuncts, a minimum of discomfort and delay, and finally that his work should be of a higher average.* In so far as he cannot conform to these requirements he fails to justify his being and belittles his name.

449-50 Century Building.

SPINA BIFIDA.*

By J. M. Frankenburger, M. D., Kansas City, Mo.

Spina bifida, or hydrorachitis, is a condition of imperfect development of a portion of the posterior part of the spine, and consists of an abnormal congenital opening generally situated in the median line of the posterior arches of one or more vertebræ.

There are five varieties, as follows:

Meningomyelocele, in which the deficiency in the arches is associated with protrusion of the spinal cord and membranes, the wall of the sac consisting of skin and dura mater, lined by arachnoid membrane, its cavity being continuous with the subarchnoid space. The spinal cord leaves the canal, crosses the sac to the posterior wall and continues as a flat layer of nerve-tissue, still retaining its central canal. This is the commonest form and comprises about 60 per cent. of all cases.

Meningocele, in which only the membranes containing cerebrospinal fluid protrude, the cord occupying its normal position in the spinal canal; this comprises about 8 per cent. of the cases.

Myelocele, in which the central canal of the cord communicates with the surface of the body, no skin covering the defect in the bone; this condition is incompatible with life and the child is nearly always stillborn, or dies in a few hours after birth.

Syringomyelocele, in which the cavity of the tumor is formed by the dilatation of the central canal of the cord; this form is very rare.

Spina bifida occulta, in which there is a vertebral cleft without protrusion of cord or membranes; the overlying skin may be cicatricial in character, or covered by a large growth of hair.

Myelocele being incompatible with life longer than a few hours, it is useless to consider any form of treatment for that variety.

In these forms, meningo-myelocele, meningocele, syringomyelocele, in which the defects in the bony canal are associated with protrusion of the spinal contents, the spina bfida is recognized by the appearance of a rounded or oval tumor, commonly involving the lower part of the spine, generally in the median line. It may be covered by normal skin, but usually, especially where the tumor is of any size, the skin is thin and translucent. When the sac is lax the break in the arches may be felt. The general health may be good and none of the functions impaired, but many other disorders, such as hydrocephalus, paralytic talipes, etc., may be present, and where the cord is involved, paralysis of the bladder, rec-

*Read before the Ray County Medical Society, at Richmond, Mo., August 18th, 1909.

tum and lower limbs, perforating ulcers and other trophic changes, may be present.

The prognosis depends on the size of the spina bifida, together with the thickness and character of the overlying skin. If the bony opening is quite small and covered with healthy skin, the patient may reach adult life, but trophic changes are apt to supervene at any time. The majority of cases, however, if left to themselves, will die of marasmus, although death may result from rupture of the sac with escape of cerebrospinal fluid, or from meningitis following inflammation of the sac.

In view of the fact that nearly all of these cases are doomed to die at an early age, and if they do manage to survive, it is with some ensuing



complications which make them a burden on their family or community, operative procedures should be instituted, unless there exists some positive contraindication.

The operation to be considered is excision, with closure of the cleft, either by flaps of the soft parts or by osteoplastic methods. An incision is made through the skin on each side of the tumor, about half an inch from the base, marking out two flaps, which are carefully dissected off the meninges, back on each side to a little beyond the margins of the bony cleft. Expose the sac and place the head of the child low so as to avoid loss of cerebrospinal fluid, select some portion of the sac, preferably its lateral aspect, where there is less liability of encountering cord and nerves, and incise the sac. On examination, if the sac contains neither

cord nor important nerves, if its neck is small, it may be ligated and the sac excised. If the neck is large it may be excised and sutured. If the sac contains the cord or important nerves, or both, such structures must be carefully dissected out from the sac and returned to the spinal canal, after which the sac should be excised and sutured. The membranes should be sutured at a different angle than the skin, so as to lessen the liability of escape of the cerebrospinal fluid.

The bony cleft may be closed by either the soft or bony structures. If the opening is small, and the adjacent muscles and aponeuroses thick,



the structures may, with or without lateral liberating incisions, be brought together in the median line and sutured.

When large openings exist in the bony cleft, some form of bony closing is better. Dolinger retracts the muscles covering the rudimentary laminæ which form the boundaries of the defects, cuts through their bases, freeing them as little as possible from their soft parts, bends them over the defect, and sutures them there. Zenenko and Broca split the transverse processes of the two sides parallel with their faces, so as to form anterior and posterior halves, and bending their posterior halves backward, suture them in the median line over the cleft.

By other operations the osseous flap may be borrowed from neighboring or distant bones other than the vertebral column. Bony plates from animals have been inserted in the opening, and a celluloid plate has been sprung into the gap.

After the closure of the bony gap by one of the methods mentioned, the adjacent soft parts are carefully sutured, without drainage, a dressing applied with enough firmness to exert some pressure. The child should be put to bed with its head lowered so as to avoid, if possible, the escape of any cerebrospinal fluid.

Especial attention must be given to the after-treatment of the wound, on account of its close proximity to the anus, with the danger of soiling the dressings and infection of the wound.

The following case is reported on account of the immense size of the sac:

M. M., female, age 2½ years. Sac was quite small at birth, but had continued to grow until it had attained its present size as depicted in the accompanying illustrations.

No effort had been made to teach the child to walk, on account of the large size of the sac, but the lower limbs were fairly well developed and the child moved them at will. The sac wall was very thin, translucent and ulcerated. The danger of the operation as well as the danger of the present condition of the child with the extensive ulcerations present on the sac, was explained to the parents. Operation, June 22, 1909, anesthetic ether, which the child took very badly. The hips were elevated and the trunk and head lowered, so as to prevent too rapid loss of cerebrospinal fluid. On incising the sac, nothing was found but a few cutaneous nerves, the case being meningocele. After draining the sac, the bony cleft in the spine was found to be as large as a half dollar. The sac being so large it had produced pressure on both sides of the bony canal, so as to bring about absorption of the spinal muscles, and it was impossible to secure any muscle or aponeurosis to cover over the defect. At this stage of the operation the anesthetist declared the child to be in an alarming condition, and the opening was closed by suturing the membranes and skin.

The child rallied well following the operation and progressed nicely for twenty-four hours, when it developed convulsions and died suddenly.

AMPUTATION AT THE SHOULDER-JOINT FOR SARCOMA OF ELBOW, RECOVERY OF PATIENT, WITH PECULIAR POST-OPERATIVE SEQUELÆ; SOME REMARKS UPON THE RELATION OF REFLEX-PARALYSIS TO INJURY OF NERVES.*

By B. Clark Hyde, M. D., Kansas City, Mo.

Fred Miller, white, laborer, 45 years old, no permanent residence, was admitted to the Kansas City Post-Graduate Hospital July 9th, 1908.

Previous History: No illness of any consequence until two years ago when he began to have pain, followed by swelling, in right elbow. This was treated as rheumatism. He took treatment from a number of doctors, but nothing had any effect on the disease, and finally he went to an advertising doctor in Salt Lake City, and paid him $400.00, being promised a cure, this money being the last of his savings acquired while working as a laborer on railroad construction in the Rocky Mountains. When his funds were exhausted, being unable to work, he became a wanderer. He was advised to have the arm amputated, but refused. Early in July, 1908, he was in Kansas City for a day or two. At that time the tumor was discharging a foul-smelling gangrenous fluid which saturated his clothing even to wetting the length of his trousers on the right side. A policeman made him go to the City Dispensary for treatment. He refused to go to the City Hospital for operation, and after having a dressing applied wandered away. He was told that if he remained in the city he would be compelled to go to the hospital as his condition was intolerable to his neighbors. He wandered away and on July 8th arrived at Olathe, Kansas, where he fell to the ground, being unable to proceed further on account of physical weakness. The municipal authorities took him in charge and the county physician brought him to the Post-Graduate Hospital the next day.

Condition on Admission: 4:30 p. m., July 9th. T. 99, P. 92. He seemed overcome with somnolence, and after being aroused to answer a question would respond briefly, and at once go to sleep again. After his recovery he stated that he did not remember entering the Hospital, and the only ante-operative hospital memories he had was complaining of pain once when the arm was lifted in the preparation for operation and also, that he asked to be given an anæsthetic as he was being placed on the operating table. He stated that he had lost considerable flesh, his normal weight being about 165 pounds. Pediculi capitis and corporis were present.

Physical Examination: The right elbow was enlarged to about the size of his head; the arm had been its present size for about one month.

*Read in the Surgical Section, Fifty-second Annual Meeting, Missouri State Medical Association, Jefferson City, May, 1909.

On the posterior surface of the elbow there were three large sinuses discharging freely a gangrenous putrid fluid. The sinuses had been present three or four weeks. Numerous maggots were present in the mass. The arm was swollen from about the deltoid insertion to the finger tips. Heart, lungs, kidneys, normal. Examination of abdomen negative.

Diagnosis: The growth was at first considered, partly from its hardness on palpation, an osteo-sarcoma, until after the operation when Dr. E. L. Stewart, the Pathologist at the Hospital, obtained sections showing it to be fibro-sarcoma, which diagnosis was later confirmed by Dr. Frank Hall. Dr. Skinner, the Hospital Roentgenologist, took a post-operative *x*-ray picture which shows no enlargement or thickening of bone.

Ante-operative treatment: Patient was given a prolonged bath, washed with an antiseptic, the right arm continuously irrigated with hot bichloride solution 1-1000 until maggots ceased to appear, and then the arm, from the wrist to the axilla was dressed in a liberal investment of gauze wrung out of hot bichloride 1-1000 and surrounded freely with absorbent cotton and bandage, with directions to change this dressing as often as it became saturated with discharge. The dressing was changed once at midnight and also prior to the operation. The treatment seemed sufficient to kill the maggots as none were seen when the arm was dressed just before the operation. The man was given a good meal at 6 o'clock p. m., but he had to be persistently urged to eat on account of his tendency to sleep. He slept less after midnight.

Operation, 10 a. m., July 10th: After the usual aseptic and anti-septic precautions, assisted by Drs. Lester Hall and Benjamin Jacobs, with Dr. Stevens administering the ether, I did an amputation at the shoulder joint according to the method of using lateral flaps, the axillary vessels being ligated before the remaining structures were severed. Van Horn cat-gut was used exclusively as ligatures, the axillary artery and vein being tied with size No. 3, the smaller vessels with No. 0, with silk-worm-gut as interrupted skin sutures, and a drainage tube was anchored with suture in a counter-opening in the most dependent portion of the flap. The patient stood the operation very well, but showed some shock, especially respiratory shock, after the brachial plexus was severed.

Subsequent history: Patient was returned from operating room with pulse 140. At 8 p. m., pulse was 80, temp. 99, resp. 20. Patient had not been nauseated since operation, feeling comfortable during afternoon. Complained of a feeling of excessive heat and said he would sleep as soon as he was cooler. Had slight headache, very thirsty at 8 p. m., sleeping at 8.15. During night complained of pain in chest. Had difficulty in breating as if the bandage around chest was too tight. Slept well after midnight.

July 11th: 8 a. m. pulse 82, temp. 100.4, resp. 23.

Dressings changed, gauze next to wound slightly stained with bloody



Fig. 1.—Dorsal surface of amputated extremity.



Fig. 2.—Flexor surface, showing gangrenous condition. The incision below elbow was made after the operation, for the purpose of obtaining tissue for microscopic sections.

fluid, which did not penetrate the outer dressings. Drainage tube removed. During afternoon complained of pain in left foot. Fairly good day until 7 p. m., when he complained of pain in right shoulder. 8 p. m. pulse 120, temp. 101, resp. 38.

July 12th: Had a fairly good night. Slept after 1 a. m. 8 a. m. pulse 88, temp. 99.4, resp. 28. Dressings changed at 10 a. m., very slight discharge of serum from drainage opening; quiet during afternoon. Patient on regular full diet. 8 p. m. pulse 76, temp. 98.8, resp. 24. Patient very thirsty.

July 13th. Patient had a good night. On regular full diet. Dressings changed. No discharge from wound. Good bowel movement as result of enema. Segments of taenia solium in stool. These segments were seen in every stool that was observed thereafter during his stay in hospital. No vermifuge was given. Patient before leaving hospital stated that he had several times taken treatment for tape-worm, but without satisfactory result.

8 a. m. pulse 76, temp. 98, resp. 18. 8 p. m. pulse 76, temp. 99, resp. 22.

July 14th: A discoloration of the skin over the abdomen was noticed. This discoloration covered an area corresponding above closely to the outline of the costal arches, below to a line drawn transversely an inch below the umbilicus, and laterally to a prolongation of the mid-axillary lines. This discoloration appeared like the dry brown stain left after the application of a silver nitrate solution. Otherwise the patient's condition was satisfactory. Sat up in bed.

July 15th: Patient was very restless and did not sleep. Seemed delirious at intervals. Given hyoscine hypo. gr. 1-200 at midnight and morphine hypo. gr. ¼ at 3:15 a. m. Patient was developing a ravenous appetite, and sitting up in bed ate every morsel of three full meals. Discolored area on abdomen darker.

8 a. m. pulse 78, temp. 97.4, resp. 20. 8 p. m. pulse 86, temp. 98.2, resp. 24.

July 16th: Patient delirious. The entire discolored area on abdomen had become one large bleb. This was dusted with antiseptic powder and covered with gauze dressing. Operation wound dry and healing. Patient received hyoscine gr. 1-200 at 9:30 p. m., and morphine sulphate gr. ¼ at 11:45 p. m.

8 a. m. pulse 82, temp. 98.4, resp. 19. 8 p. m. pulse 78, temp. 98.4, resp. 20.

July 18th: Delirious and restless until 2:30 a. m. Slept about one hour during the night. The serum from abdominal blister escaping into dressings. Antiseptic dressing applied. 8 a. m. pulse 80, temp. 98.2, resp. 20. 8 p. m. pulse 78, temp. 98, resp. 22.

July 19th: Rested and slept well during the night. Abdominal blister drying and scaling. Antiseptic dressing applied.

July 20th: Rested and slept well all night. Dressing changed.

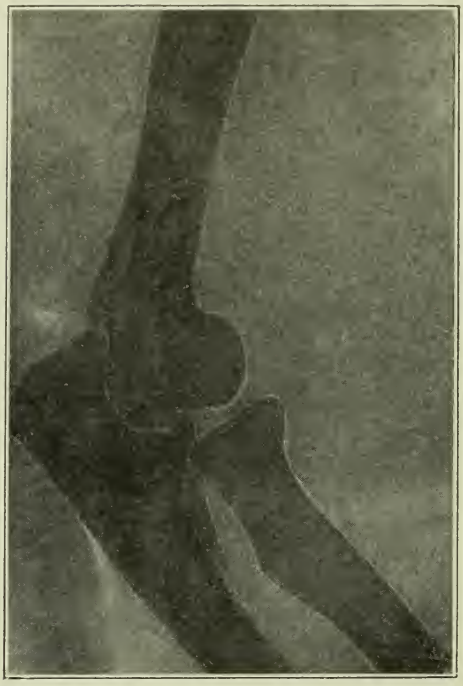


Fig. 3.—X-ray photograph—shows no involvement of bone.

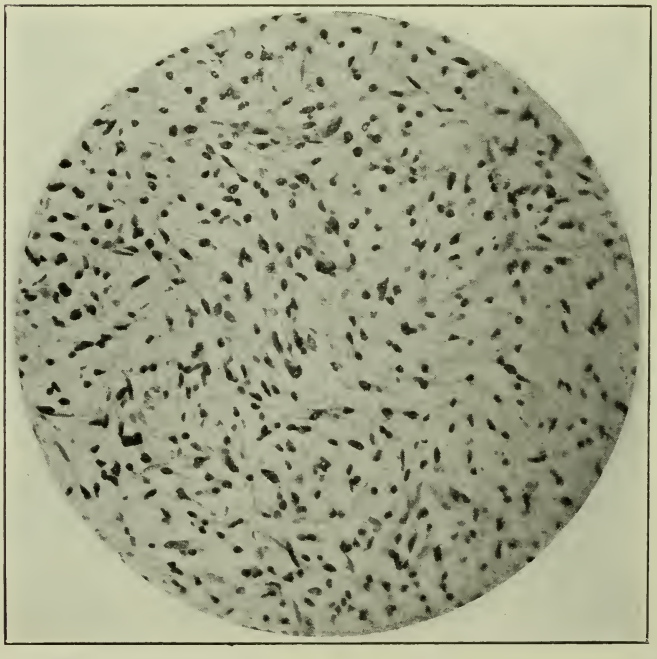


Fig. 4.—Microscopic section shows the tumor to be a fibrosarcoma.

Sitting up in chair this p. m. At this time the patient said that he had been oblivious to his surroundings and remembered nothing since his request when put on the operating table that he might be given something to relieve pain.

Temperature, pulse and respiration normal.

July 21st: The abdominal blister dry, scaling, and required no further dressings. Patient slept and rested well.

July 27th: Patient has steadily improved and condition satisfactory except that he has complained of pain in his left leg, this pain following the course of the sciatic nerve from its emergence from the pelvis to the foot. When he attempted to walk he felt a marked muscular weakness in his left leg. Had experienced nothing like this before the operation.

August 7th: Patient remained in the hospital until to-day. His general condition steadily improved, his mind became clear, he expressed a keen desire to return to work of some kind and he complains only of his left leg. The pain appears at irregular intervals, sometimes coming on at night when he is in bed, at which times he gets up and walks around for relief. Sometimes the pain comes on after taking a walk. At the foot the pain seems to be more in the plantar than in the dorsal tissues. On the day of leaving the hospital the pain is less evident but he says that it still bothers him a good deal.

The man left the hospital 26 days after operation, and remained for a few days at the Helping Hand Institute. He had learned to write with his left hand and said that as soon as possible he would obtain a position and earn a livelihood. He remained at the Institute a few days and since then I have been unable to locate him.

Aside from the operative features of this case I desire to emphasize the following:

(1) The appearance of a bleb on the abdomen, synchronous with delirium; the desquamation of the blister pari-passu with the disappearance of delirium, at the same time that there was no wound infection or other apparent condition that would cause an altered mental state; (2) the pain and muscular weakness complained of in the left lower extremity.

Can these sequelæ be ascribed to reflex paralysis or to toxic neuritis?

When the patient was in the hospital during the period of desquamation he was presented at the monthly meeting of the Post-Graduate Medical Society, and the subject of reflex paralysis came up. Dr. B. E. Fryer, who has had a large experience in the hospital service of the U. S. Army, spoke of a paper that had been presented in Philadelphia in 1864 by Drs. Weir Mitchell, George R. Morehouse and William W. Keen. This paper is entitled "Reflex Paralysis the Result of Gun-Shot Wounds," and is on file in the Surgeon General's library.

I obtained a copy of this paper in which are reported cases where paralysis of a remote part or parts has been occasioned by a gun-shot

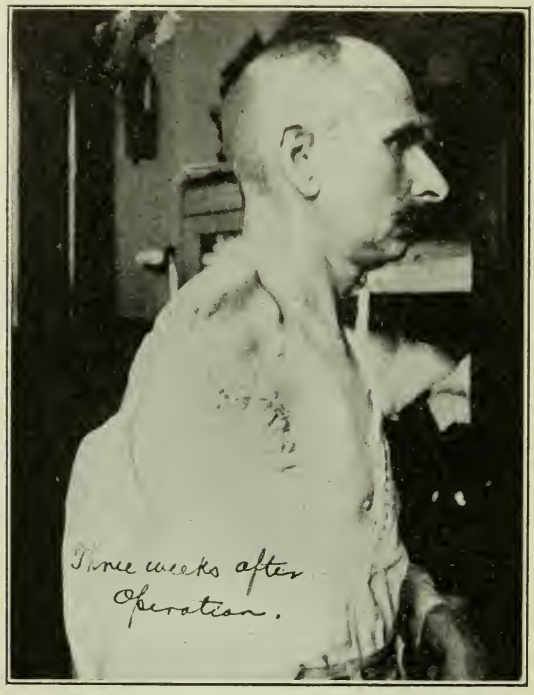


Fig. 5.—Result of operation.



Fig. 6.—Result of operation. Affords a good shoulder for carrying purposes.

wound of some prominent nerve, or of some part of the body which is richly supplied with nerve branches of secondary size and importance. This paper is well worth careful perusal, as in fact are all the medical essays of this trio of trained and careful observers. I shall attempt merely a synopsis of seven cases.

Case 1. Ball wound of right side of neck, probably involving no important nerve directly; fracture of hyoid bone; wound of throat; reflex paralysis of left arm; probable reflex paralysis of right arm; early recovery of left arm; partial and remote recovery of right arm.

Case 2. Ball wound of right thigh, without wound of any large nerve; complete paralysis of all four limbs; speedy recovery of left arm, tardy recovery of the other limbs; subsequent analgesia of the right side.

Case 3. Ball wound of right thigh, with probable commotion of right sciatic nerve; partial paralysis of right leg; reflex paralysis of right arm; speedy recovery of arm; history unfinished.

Case 4. Ball wound of right testicle; paralysis of right anterior tibial muscles and peroneus longus. This weakness remained for several months.

Case 5. Wound by fragment of shell in external side of left thigh; wound healed in three or four months. After the wound was received patient noticed occasional smarting on the outside of right thigh. This gradually disappeared and gave place to an area of anæsthesia about five inches square, in which there was neither the sense of touch nor of pain.

Case 6. Ball wound, probably involving the right crural nerves. After three days from the date of the wound the right arm, which had remained weak from the time of the injury, became so completely paralyzed that the patient could no longer raise it to his lips.

Case 7. Ball wound of deltoid muscle; sensory and slight motor paralysis of same arm.

In three of these cases the leg was hit and the arm of the same side was paralyzed. In three cases the paralysis affected the opposite side of the body, and in one the paralysis of touch and pain was observed to have fallen upon a space symmetrically related to the wounded spot as regards position. No general law, therefore, can be deduced from these records, nor from what we see in the causation of reflex conditions from disease, such as, for instance, the formation of duodenal ulcers following burns, should we expect to find any inevitable relation between the part injured and the consequent paralysis. The constitutional condition at the time of wounding, as to excitement, mental and physical, may possibly have to do with causing the resultant paralysis.

In explanation of this the paper by Drs. Mitchell, Morehouse and Keen says, "Although we have long been aware that certain forms of disease are capable of causing paralysis of distant organs, of altering secretions and affecting nutrition, we have had no plausible theory of

the causation of the effects until Brown-Sequard attempted to account for this in a manner equally simple and ingenious. Recalling the fact that irritation of the vaso-motor nerves is capable of producing contraction of the blood vessels, he inferred that when an external nerve is violently or permanently excited, it may be able to produce contraction of the capillary vessels of the nerve centers and thus give rise to paralysis. It seems unlikely, even if we admit this explanation, that the capillaries could remain contracted for any great length of time.

But it is possible that the alteration of nutrition which this temporary anæmia causes, may give rise to one or two results, either a continuous disturbance of nutrition, which, however slight, would occasion grave results if it existed in a nerve center, or secondly, to a paralysis of the capillaries of the nerve center involved.

We suppose, first, the existence of an exterior nerve lesion, secondly a consequent irritation of the vaso-motor nerves in a limited part of the spine; contraction of its capillaries, anæmia, nutritive changes, and finally a relaxation of these vessels, which would be more apt to be a lasting condition and would in fact constitute congestion. Such a series of consequences may very possibly occur, and would no doubt be competent to cause a paralysis, whose site, extent, and character would depend upon the part of the nerve centers affected by the excitation. With so satisfactory an hypothesis before us in this modified shape, it would seem needless to suggest any other explanation. But in a region of research so little explored, it may be allowable to point out the fact that another mode of explanation is at least possible, and the more so, since there exists certain objections to Brown-Sequard's manner of viewing the subject.

It is to our minds improbable that contraction of the capillaries can continue for any great length of time. There is no experiment on record to show that this can be, or that it ever occurs in a nerve center. We have, therefore, added the suggestion of consequent, and why we may not say, primary paralysis of these vessels. Here we have firmer ground for opinion, since it has been most distinctly shown that in section of the sympathetic nerve this result does take place, and is singularly persistent. But when the bloodvessels remain contracted or dilated nutritive changes would occur, and these the pathologist has failed to find. If we now ask ourselves the question whether it may be possible to blight or exhaust utterly the power of a nerve center, without the intervening mechanism of contracted or dilated blood vessels, we are tempted to think that such a result may be possible.

It appears to us possible that a very severe injury of a part may be competent to so exhaust the irritability of the nerve center as to give rise to loss of function, which might prove more or less permanent. A strong electric current, frequently interrupted, is certainly able to cause such a result in a nerve trunk, while a general electric shock as a stroke of lightning, is, as we well know, quite competent to destroy the irri-

tability of every excitable tissue in the economy. Now if the former of these results can occur in a nerve so isolated, as practically to have no circulation, the loss of irritability can not be set down as due in such a case to a defect of circulation. Reflecting then upon the close correlation of the electrical and neural force, it does not seem improbable that a violent excitation of a nerve trunk should be able to exhaust completely the power of its connected nerve center. The central change thus brought about would no doubt involve the consequent or immediate occurrence of chemical changes, which would gradually yield as time went on. While this view seems to us adequate to explain the facts, the notion of vaso-motor irritation and capillary contraction of Brown-Sequard does not appear to be competent to cover all the facts.

We have pointed out that no one has ever shown that capillary contraction can exist as a permanent state in a nerve center; while on the other hand, it has been proven that section of a sympathetic nerve involves permanent dilation of blood vessels; but in the brain, which is supplied by the sympathetic of the neck, division of this nerve gives rise to no disturbance, although the side of the brain on which the section occurs grows warmer. However, it is probable that the whole supply of vaso-motor nerves to the brain does not come from the neck, while other organs, whose whole supply we can cut off, as the kidneys, do certainly suffer nutritive changes as a consequence of such sections.

One or other of the two theories we have offered must therefore be called upon to explain the central changes which give rise to reflex paralysis. Either the shock of the wound destroys directly the vital power of a nerve center or it causes paralysis of the vaso-motor nerves of the center, with consequent congestion and secondary alterations. But there is no reason why if shock be competent to destroy vitality in vaso-motor nerves or centers, it should be incompetent so to effect the centres of motion or sensation."

The above rather lengthy quotation in reference to reflex paralysis has been indulged in for the reason that its occurrence must be rare, and its pathology a matter which to-day is seldom brought before the profession. The pathology of neuritis is well understood and I shall not here attempt its description.

That systemic infection was present, which might have given rise to neuritis in the case reported in this paper there is no doubt. But the intensity of this infection was not sufficient to disturb the temperature much.

The effect produced on temperature by infection is a good index as to the systemic influence of toxæmia, and while it is not without exception, nevertheless it is the rule that during wound healing, if there has been infection, there is a rise of temperature continuing until the infection subsides.

It has been suggested that the term "reflex paralysis" should be discarded altogether, and in order to satisfy myself as to the position

that Dr. Weir Mitchell takes at the present day in this matter, and to ascertain if his views of the above reported cases have been altered by the pathology of recent years, I wrote to him in this regard and received the following reply under the date of January 9th, 1909. He writes, "I believe the term reflex-paralysis should be limited to cases where there is a real loss of power and I have no doubt at all that such cases do exist although they are rare. There are other reflex conditions which are not paralytic in nature and which cannot be classified as toxæmic. There is no escape from the belief that the cases described by Keen and myself were reflected paralysis. Their rarity must be extreme."

Either toxæmia or reflex-paralysis then, is to be used in explanation of the symptoms that arose subsequent to operation in the case reported above, which the condition on admission, the character of the operation, and the course during convalescence, serve to invest with exceptional interest.

A PLEA FOR CIVIL SERVICE IN THE CHARITABLE INSTITUTIONS OF MISSOURI.*

By M. A. Bliss, M. D., St. Louis, Mo.

Since the beginning of independent government in the United States there has been a growing tendency, slow and frequently halted entirely for a time, toward a systematic classification of employees in the civil service. The words "civil service" have come to have a somewhat different significance than originally attached to them. We think, when we hear them, of competitive examinations, of security of tenure, of opportunity for promotion, and of classification of employment. In the Federal service these are applying to a large and increasing number of departments.

So-called civil service reform has fought its way step by step until now its opponents are reduced to a purely defensive attitude, no general attack on the principles involved being any longer possible. When we think of *the* civil service we think not of a service filled with employees selected by favoritism and expecting discharge with each change of administration, doing their work in any way just to get through and draw their pay—but of employees secure in tenure during good behavior, working to occupy a still higher position, stimulated by an ambition possible of accomplishment.

In a paper read before the Illinois Federation of Women's Clubs, October 22, 1908, at East St. Louis, Joseph C. Mason, Secretary of the Illinois Civil Service Commission and President of the National Assembly of Civil Service Commissioners, told of the progress of the plan since President Jefferson's time, and I quote freely from this succinct account of the struggles which the principles of competitive service have had to endure.

The first appropriation was secured by President Grant, and amounted to $25,000. Everything was left to the President's discretion "to prescribe such rules and regulations for the admission of persons into the Civil Service of the United States as will best promote the efficiency there of * * * and to employ suitable persons to conduct said inquiries." An advisory board with George William Curtis was appointed by President Grant.

On April 16th, 1872, the rules formulated by the Commission were applied to the departments at Washington and the Federal offices in New York.

*Read at the Annual Meeting of the State Board of Charities and Conferences, Farmington, Mo., November 4, 1909.

January 16, 1883, the present Civil Service law was passed and approved, sixteen thousand employees were by this law placed under the rules of the civil service, and during each administration since then more have been added, so that on June 30, 1908, there were 352,000 employees in the Government service, of which 260,637 were subject to examination.

Since the last named date many employees in the "Five Civilized Tribes Commission," the General Land Office, National Parks and Reservations, have been placed in the classified service. The representatives of 53,345 Fourth Class Postmasters, convinced of the merits of the system, asked to be placed in the classified service, and on December 1, 1908, 15,000 were so placed. The Philippines and Porto Rico have their own Civil Service Commissions. Federal positions in Hawaii, Alaska and on the Isthmian Canal Commission, are under Civil Service rules.

The first state to pass a civil service law was New York, in 1883, followed by Massachusetts in 1884. Illinois passed a law covering 2,222 positions in the state charitable institutions, in 1905. Wisconsin passed a civil service law the same year. Colorado passed a law in 1907, covering the state charitable institution and the cities that wished to adopt it. Many cities in the United States—Los Angeles, San Francisco, Denver, New Haven, Des Moines, New Orleans, Boston, Duluth, Trenton, N. J., Portland, O., Philadelphia, Pittsburgh, Nashville, Seattle, Milwaukee and Madison,—have established classified civil service, with rules adapted to the exigencies of the department covered. The Forestry Department of the Federal Service has been added to those in which an examination is required, and three hundred young men stood the examination for forester during this past summer.

This short survey will serve to show how rapidly the idea of classified service is spreading. It has passed the test of time. All about us we have actual working examples of its usefulness in securing efficient employees.

In our sister State of Illinois the law of 1905 is in full operation in all of the eleemosynary institutions, and we shall have an example near at hand to study and improve upon if we may. Missouri needs only to be shown. With her vast natural resources and her rapidly increasing population, fifth in the Union, but always ambitions to be first in all ways, she wants the best and will be content with nothing short of it.

The third annual report of the Civil Service Commission of Illinois has been issued. There are seventeen State charitable institutions with 2,343 employees in service. All below the superintendents, except chief clerk, one stenographer, and the treasurer, are included in the classified service.

This means that the service is uniform in institutions of like function throughout the State. That every employee entering the service must stand an examination to establish his or her fitness for the place applied for. That removal is only possible by the consent of the Civil

Service Commission. That in most departments there is opportunity for promotion, either in the same hospital or in another of like function.

It hardly seems necessary to do more than enumerate the features of such a plan to select and train employees for State charitable institutions. The question of tenure plays a very large part in efficiency of service. If tenure depends on efficiency of service and not on favor or political considerations, it is fair to conclude that individual endeavor will be of a higher sort. If close application can secure promotion, with higher duties and better pay, and secure both without the intervention and in spite of special influences, if every tub stands on its own bottom and every man's welfare in the service depends on how faithfully he does his work, it seems inevitable that a higher quality of service will be had.

I do not mean to condemn in toto the present system. It has some good features, but more bad ones. The good can be retained and the evil eliminated under civil service rules.

I believe in the generally recognized rule that the superintendent shall be supreme in authority in the institution. That he have power to suspend any employee under him, his reasons for doing so, however, to be clearly stated to the Commission, the employee having notice of sufficient length to reply. The present plan in Missouri, of the appointment of a Board of Managers for each institution which selects all the employees, from superintendent down, does not seem to me to compare favorably with the plan of competitive examination and a classified service. In fact I am inclined to believe that it would be far better to have a well-paid State Board of Managers for all the institutions, operating in conjunction with a Civil Service Commission, all their time to be devoted to the duties incident to the execution of their office. I would hope to see, eventually, all the superintendents selected from the classified service. The law of eligibility in New York State now provides for five years service in the resident medical staff of an institution for the insane, in a position above the grade of medical interne, two years of which shall be in a grade above that of assistant physician. Also competitive examination. It is universally conceded that special training is imperative in the care and treatment of the insane, and one is certainly fitted more thoroughly for executive duties when he has had experience in meeting the divers problems presented in conducting a plant where a large number of employees are in service.

It may be said that the work constitutes a specialty and the best results will be obtained by those whose training has been long and varied. Moreover, when a man has spent the time necessary to acquire thorough competency in this field, he has in a measure unfitted himself for other lines of work. The higher attainment he has reached in psychiatry and executive duties the more singly must he have applied himself to special tasks and the more must he have neglected other branches and other duties. He has formed himself into a useful instrument and his energies

should be applied in the direction which will give the best results to the State, his family and himself.

This seems to me to argue the necessity of selecting superintendents by competitive examination from a trained class, and of retaining them in the service of the State as long as high efficiency is maintained and they desire to remain.

All the superintendents present will no doubt testify that getting started, with new and untried help, is no light task. Every one of the changes under the present system involves changes in the under staff and in the help generally.

In the last three years the State Hospital at Nevada has had, I believe, four different superintendents, at Farmington three, at St. Joseph three. The present law does not allow a superintendent time enough to get fairly into the swing of the work before he must make way for a successor, who meets a like fate.

In the matter of a State Board for all the charitable institutions I am not aware that the plan has been tried without local boards to act under them, but I believe with only eight or ten hospitals to manage, and with a classified service, managed by a separate commission, *i. e.,* a Civil Service Commission, the plan would not only be feasible, but would bring about a more even administration in the various hospitals and subserve the needs of each one better. Under the present plan each institution makes its own fight for appropriation for maintainance and betterments. More or less rivalry exists among the local boards to make their per capita the lowest with a view to showing most economical management. This does not always result in the best interests of the sick poor, for whose welfare the whole system exists.

A State board, having no local attachments and freed from the demands of politics and personal favor by a civil service examination of every proposed employee, could, I think, judge more fairly the needs of each institution and apply available funds where most needed. A stable personnel secured by competitive examination and kept to a high state of efficiency by adequate supervision, would contribute greatly to the smooth running of the various hospitals, and the general board would not have the perplexities to meet that now puzzle the local boards.

OSTEOSARCOMA: REPORT OF A CASE.

By C. W. Watts, M. D., Fayette, Mo.

Histology. Notwithstanding the faithful, long and careful study of sarcoma, little is really known of the true etiology of these vascular tumors. The microscope has aided wonderfully in the diagnosis of sarcomatous growths, so that now the astute surgeon is not likely to make a mistake if he takes time and avails himself of the microscope and the modern works on surgical pathology. The most frequent error in diagnosis is, to confound it with carcinoma and like growths.

While our early surgeons did not have the diagnostic facilities that we now have, yet we may mention the names of Virchow, Bilroth and our own Mott, Gross and Agnew as surgeons who have given us in their works very good and intelligent descriptions of sarcoma. Among our late writers Dr. Warren, in his "Surgical Pathology and Therapeutics," has given us the best and most exhaustive facts as regards its true pathology, and Dr. N. Senn in his work on "Tumors" has also helped us.

In 1866-7 at the clinics of Dr. S. D. Gross and Dr. Jos. Pancoast, we had the pleasure of seeing several sarcomatous tumors removed successfully. In 1890 at Atlanta, Ga., Dr. J. M. Gaston, aided by Dr. Joseph Price, of Philadelphia, and others, removed the largest osteo-sarcoma on record—65 by 48 inches—from the left leg; extended from crest of illeum to middle third of tibia.* We wish to call the attention of the profession to the interesting facts given us by those two great students of pathology, Pawlowsky and Steinhaus, who, perhaps, have studied the cells of osteo-sarcoma perfectly. They have proven the following facts by personal observation:

1st, wherever you have connective tissue there you may have sarcoma. 2d, the femoral and maxilary bones are its favorite locations. They divide, for convenience, the cells into the small and large round cell; giant and spindle shape cells, very much after the order of Virchow. The sarcoma cell begins to grow under influence of a parasite, like the tubercle; first from a spore in protoplasm; spherical and oval. Dr. Warren well adds that the clinical significance of a sarcoma depends not only upon the nature of tissue, but also upon the locality in which it is found.

Prognosis. All writers agree as to its gravity and its liability to return. In 1896 we were called to operate on Mr. J. H., of Mexico, Mo., who had a very large osteo-sarcoma involving nearly the entire superior maxilla. He had waited too long and he died from a fearful hemorrhage a few days after. In the same year we removed successfully an

*International Clinics, April, 1891.

osteo-sarcoma from the superior maxilla of Mr. N., of Mexico, size of an English walnut.

As to the time for operation, let us say, always the sooner the better, after a careful diagnosis and consultation with experienced microscopists; and then a careful preliminary preparation of your patient, and if possible give your patient the benefit of being in a good hospital, with a first-class trained nurse, and keep him in the hospital long enough for observation. After this migratory and very imperfect outline of an introduction, we come now to the report of a recent case we have had, and its results.

Mr. J. T. G., a merchant of Fayette, Mo., aged 66 years, a man of fine constitution and without any history of specific trouble of any kind, first noticed a small tumor on his right leg in middle third of femur, size of a bird's egg, not painful or tender and with no discoloration or swelling. In 1907 he called the attention of Dr. N. E. Smith to it, but it gave him no inconvenience until it began to grow to the size of a hen's egg and caused him pain and discoloration and interference of muscular movements of leg.

In August, 1908, it commenced to give him pain and to swell rapidly and had a lilac color.

On September 26th he consulted us and we found a very large tumor, size of a goose egg, occupying a place midway of the right femur, lilac in color, painful and movable, and did not seem to involve the periosteum; it contained spindle shaped cells and looked very much like an osteo-sarcoma. We proposed an immediate operation.

On September 27, 1908, at the office of Dr. N. E. Smith, who assisted, we gave chloroform after a local anæsthesia had failed. We did not think it could be carcinoma as there was no hereditary history, cachexia, or glandular involvement in groin or axilla, and his general health was excellent.

We removed the entire tumor and the hemorrhage was severe. After removal the wound looked healthy and was kept open, dressed every day for two weeks. In the fourth week the wound commenced filling up with a larger tubor leaving no doubt as to its character. He went to St. John's Hospital and put himself under the care of Dr. John Young Brown, who had microscopists to confirm his diagnosis. After an exploratory incision in front 4 inches long, advised amputation of the leg. This Mr. G. refused. Dr. Brown then removed, very successfully, the tumor, and we are told used serum therapy for several days.

Mr. G. returned home in December and the wound healed nicely in its entirety. He has taken no constitional treatment since his return, and used only local baths of alcohol.

Since there has been no indications of a return up to date, April 20, 1909, and while three-fourths return he may prove an exception. He is apparently well and we hope will remain so.

In conclusion let us remind you not to make a mistake in diagnosis,

and not confuse it with carcinoma, from which it is as distinct as tuberculosis. It is no kin to cancer and has no glandular involvement only as by extension to locality, and secondarily never primarily so.

Don't from jealousy or selfishness refuse your patient the benefit of a full consultation, and by all means include a practical expert microscopist. As to constitutional treatment, we would give the patient the advantage of serum therapy although it is yet in its infancy, but is highly recommended by those who have tried it.

Where you know that the tumor involves the medullary canal and is endothelial we do not hesitate in advising amputation of entire leg or shoulder.

Since writing the above my friend, Dr. S. H. Watts, of Charlottesville, Va., has successfully removed this month the entire right arm and shoulder of Mr. D. for such a tumor, and patient is doing well at last report.

Let us study this form of vascular tumors and report all cases. We hope to hear more favorable reports from the serum treatment in the future.

NOTE.—November 17, 1909. The patient is doing well. He is up and around, working; wound is entirely healed.

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ADDRESS ALL COMMUNICATIONS TO METROPOLITAN BUILDING, ST. LOUIS, MO.

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E. J. GOODWIN, M. D., Editor.

PUBLICATION COMMITTEE:

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EDITORIAL

STATE ELEEMOSYNARY INSTITUTIONS AND CIVIL SERVICE.

During the past few months considerable publicity has been given to certain occurrences in some of our eleemosynary institutions, and the methods—or shall we write the lack of method—in the administration of the affairs of these institutions have been severely criticized, with the result that charges of mistreatment of some of the inmates have been made against the management. The latest instance is the published account that an aged inmate of the State Hospital at Nevada had died without medical attendance, and at whose inquest it transpired that personal violence had been used as evidenced by ten broken ribs on one side, which, in the opinion of the coroner's jury, at least hastened death; the inquest, however, failing to fix the responsibility for the assault.

Our State Association cannot any longer ignore these happenings, for the medical profession is responsible for the proper care of the inmates of our charitable institutions, yet in point of fact, the medical organization has little or no influence in the management or control of the medical affairs of these institutions. Since it is evident from past experience that our State Hospitals—some of them at least—are not well managed, to state the case mildly, and that this fact is due to inefficient and untrained assistants, the profession should make a demand for the introduction of the merit system in the selection of all officers and employees in our State charitable institutions. The establishment of civil

service rules in State hospitals and homes has been tried in many other parts of the country, and not only has greater efficiency of officers and employees been observed in every instance, but the inmates were cared for with some of the attention and solicitude which, as wards of the State, should be theirs.

At the recent meeting of the State Conference of Charities and Corrections at Farmington, Dr. M. A. Bliss read a paper in which he advocated the adoption of the merit system in Missouri. The paper is published in this issue of the JOURNAL (page 385) and we ask for it the careful and thoughtful attention of every member of the Association so that when the question comes up for consideration in the State and County societies, suitable action may be taken towards promoting the adoption of this system in Missouri. That the subject is a vital one and that it is agitating the minds of thoughtful persons, not alone in the medical profession but among the laity as well, is shown by the editorial comment in the St. Louis *Post-Dispatch* favorable to the system; and the resolutions adopted by the St. Louis Neurological Society recommending that the Governor appoint a civil service commission to examine all applicants for positions in the State eleemosynary institutions. These resolutions are published on page 400.

OBJECTIONABLE NEWSPAPER ADVERTISING.

In our last issue we announced the action of the Publication Committee directing that the JOURNAL reproduce objectionable items in the lay press which unduly exploited the achievements of physicians in the professional care of their patients. In response to the request that clippings be sent to the JOURNAL, we have received a number of such items. These were made the subject of discussion at a meeting of the Publication Committee in joint session with the Executive Committee. It was the sense of the members of the committees that, having given the warning, it would be better to publish, at this time, only the names of the papers in which the items appeared, with an extract showing the character of the matter to which objection is held, without naming the physicians who were mentioned in the articles. The purpose of this action is to avoid any injustice being done those whose names might have been used without their permission, and allow more time for county societies to warn their members against permitting lay papers using their names in an objectionable manner in connection with news items concerning the illness or injury of persons under their care. In accordance with this action, we publish the following:

SWALLOWS COCKLE BUR.

"——, ten years old, of ——, had one of the most painful and, at the same time, unusual accidents happen to her, which has occurred here . . . .

She was brought to Drs. ——, who were unable to get to the bur with any ordinary instrument . . . . They made an incision below the vocal cords . . . . . enabling them to take it out that way. It was one of the most peculiar and painful operations they have performed for some time."—*The Daily Express, Kirksville.*

SURGEONS CLEAR CLOUDED BRAIN.

Such are the headlines over a column description of an operation on the brain, to relieve pressure, with the hope of thus restoring the reason of the patient; the operation occurred at an hospital in St. Louis. The article is written in typical newspaper style and so worded as to compel the belief that it was, in all its essential medical features, dictated by one of the surgeons. The clipping sent us is from the St. Louis *Post-Dispatch.*

THROBBING HEART IN HAND.

Under this heading there is a vivid description of how certain surgeons in an hospital in St. Joseph, opened the pericardial sac and discharged two quarts of pus. Quotations of the remarks of one of the surgeons are interspersed in the description of the operation. The item sent to us is from the St. Joseph *Daily News-Press.*

"Mr. —— came in Friday to have a surgical operation performed. The operation was performed Sunday by Dr. ——. The patient is reported doing nicely."—*The Norborne Leader.*

END OF FISCAL YEAR.

The fiscal year of the State Association ends on December 31st, and, therefore, all members should pay their dues for 1910 before January 1st, so as to enable the State secretary to enroll them in the roster for the new year.

The roster of membership will be published in January instead of in this issue, as was announced last month, in order to give all members an opportunity to meet their obligations to the Society, and be represented in the published list of members.

The councilor of each district has been furnished with blanks to be sent to each member in his district, and thus, the councilor will lend con-

siderable assistance to county societies' secretaries, in impressing upon the members how essential it is, that dues to the local society be paid promptly.

The secretaries of local societies are urgently requested to send remittances and lists of paid-up members to the State secretary as promptly as possible, after members have paid their dues. Only in this way can irritating delays and annoying errors be corrected, and members properly enrolled on the secretary's books and the mailing list of the JOURNAL.

The JOURNAL is not sent to members who are delinquent in the payment of their dues, nor can such members be granted the privilege of assistance from the Defense Committee, should they be so unfortunate during the period of their delinquency as to be made the target of a suit for malpractice.

Members will readily appreciate the necessity for prompt payment of dues to the local society, when these important privileges of membership are remembered, and the fact that non-payment of dues operates automatically in suspending them from participation in such benefits. A delay of a few days in the payment of dues to your local society might result in depriving you of these benefits, just at a time when they would be of the greatest service in protecting your interests.

CHANGE OF DATE OF ANNUAL MEETING.

In view of the close proximity of the meeting of the American Medical Association in St. Louis in 1910, to the usual time of meeting of the State Association, the officers have fixed the date for the next annual session of the State Medical Association, for May 3d, 4th and 5th, 1910.

Reports from the members of the county society in Hannibal, indicate that this date will be much more convenient for the Committee on Arrangements to make preparations for the entertainment of the Association, and not conflict with any other convention.

It should also be remembered that the holding of the annual session on May 3d will give the members of the State Association an opportunity to return to their homes, and allow them an interval of about five weeks in which to make their preparations to attend the American Medical Association in St. Louis on June 7th.

EDITORIAL NOTES

THE Boone County Medical Society has organized a post-graduate class, which has been holding weekly meetings since September 1st. From twelve to fifteen men have been present at each meeting. Those assigned places on the program have always responded, and the discussions have been interesting. The members of the laboratory now in connection with the Medical Department of the University of Missouri, are members of the class and are a great help in the discussion of scientific questions. After the regular program refreshments are served and an hour spent in informal discussion.

COMMITTEE on Credentials and Arrangements for the United States Pharmacopœial Convention.

President Horatio C. Wood has appointed the following committee on credentials and to make arrangements for the United States Pharmacopœial Convention, which will be held in Washington, D. C., beginning Tuesday, May 10, 1910: Professor O. T. Osborne (Chairman) Yale University, New Haven, Conn.; Dr. H. C. Wood, Jr., University of Pennsylvania, Medical Department, Philadelphia, Pa.; Mr. L. S. Hilton, Washington, D. C.; Mr. W. L. Cliffe, Philadelphia, Pa.

The following officers of the convention are ex-officio members of the committee: President H. C. Wood, Jr., University of Pennsylvania, Medical Department, Philadelphia, Pa.; Secretary H. M. Whelpley, Washington University, Medical Department, St. Louis, and Assistant Secretary Murray Galt Motter, Hygienic Laboratory, Washington, D. C., James H. Beal, Scio, Ohio.

DR. F. B. FUSON, of Springfield, has been appointed a member of the State Board of Health, to fill the vacancy caused by the expiration of the term of Dr. F. J. Lutz.

Dr. Fuson will be a valuable addition to the membership of the State Board, for he is a man of sound judgment and in thorough harmony with the aims and objects of the Board in its effort to maintain a high standard of medical education and public sanitary measures in our State.

Dr. Fuson, soon after his graduation from the Missouri Medical College in 1886, located at Mansfield, this State, and practiced continuously

in that town until 1905, when he moved to Springfield. He is a member of Green County Medical Society and an ex-president of the Southwest Missouri Medical Society, and of the Tri-County Medical Society (Wright, Douglass and Texas Counties). He was one of the principal organizers of the Springfield Hospital, and is the local surgeon for the Frisco Railroad.

The physicians of Liberty and vicinity have organized a college extension course, which meets every Friday night at the office of Dr. J. M. Allen of Liberty. Drs. Rowell and Rice, of Kearney, and Drs. Suddarth and Woods of Smithville, have been attending and are valuable members. The subjects upon which papers have been written and discussed are "Value of Antitoxin;" "How Long the Klebs-Loeffler Bacilli Remain in the Throat After Using Antitoxin." This was demonstrated by cultures to be over twenty-one days in majority of cases. "Value of Immunizing Doses of Antitoxin" was discussed and its use endorsed. Although it was found that among those immunized not one had diphtheria, cultures made twenty days after immunization showed the attenuated germ. "Heredity" and "Immunity" were the subjects of one meeting. The "Thyroid Gland" was the subject for discussion at the October 5th meeting, followed, on October 12th, by a discussion of "Opsonic Theory and Bacterial Vaccines." Dr. J. M. Allen is president and Dr. Burton Maltby, secretary.

The State Secretary has arranged for the sale of a State Association Button, and is now ready to deliver the same to those who wish to own this insignia of membership. The button is handsomely designed, and all members should be proud to possess one. The price of the button is $1.00.

OBITUARY

ROBERT C. CARTER, A. M., M. D.

Dr Robert C. Carter was born in Richmond, Va., January 12th, 1838, being one of the eight children born to William M. and Jane Carter, who emigrated to Lafayette County with the remainder of the family in the year 1840, and located at Dover, Mo. The subject of this sketch is the last of the sons to pass away. Two sisters are yet living; they are Mrs. Meng, of Lexington, Mo., and Mrs. Bettie Harwood, of Dover, Mo.

Dr. Carter's earliest education, after leaving the public schools of his home, was obtained in the Masonic College of Lexington, Mo., before the Civil War. In the year of 1861 he received his degree of A. B. in the Missouri University, and then, owing to the war between the states, he enlisted in the Confederate army and fought diligently, as did many others of the south, for the cause to which he held his allegiance. After being honorably discharged from rank, he again resumed his duties at the State University and received his degree of A. M. in the year 1865. He then took up the study of medicine, and graduated with honors from the McDowell Medical College in the year 1868.

After his graduation he located at Dover, Mo., and practiced for six years in partnership with his family physician, Dr. Kincannon; he then married and moved to Gentry County, Mo. In the year of 1880 he removed to Lafayette County and located at Higginsville, which was at that time a town of less than one hundred inhabitants.

Dr. Carter was an active member of the Lafayette County Medical Society, the Missouri Medical Association and the American Medical Association. At various times during his career he enjoyed positions of trust and distinction in these societies.

J. J. NORWINE, M. D.

Dr. J. J. Norwine, of Popuar Bluff, died at his home in November, after a long illness. He was one of the first councilors of the Association after its reorganization, and through his untiring efforts and faithful devotion to the welfare of the organization, he organized many of the county societies now doing good work in the southeastern part of the State. He was a man of no mean ability as a physician, beloved by all who knew him, and commanded the highest respect and confidence of his fellow members in the society.

At a called meeting of the Butler County Medical Society, held at Poplar Bluff November 7, 1909, the following resolutions were passed on the death of Dr. J. J. Norwine, one of the organizers of the society, and a man who showed unusual activity in the cause of medical progress,

the organization of county medical societies, and the increase and betterment of the Missouri State Medical Society:

WHEREAS, The kind hand of Providence has seen fit to call from our society our beloved, respected, and esteemed fellow member, Dr. J. J. Norwine, therefore be it

Resolved, That we, the members of the Butler County Medical Society, do hereby express our sorrow and bereavement at the death of Dr. J. J. Norwine;

Resolved, That this society extends its sympathy to his surviving relatives;

Resolved, That a copy of these resolutions be given to Mrs. Norwine, to the daily press, to the Missouri State Medical Journal, and that a copy be placed on the records of the Butler County Medical Society.

A. WINDSOR, Chairman;
VICTOR CADWELL,
B. C. JONES,

The Committee.

MAY B. COLLINS, M. D.

Dr. May B. Collins, of Glasgow, Mo., died in Kansas City on November 20th, as the result of an accident. Dr. Collins was a member of the State Medical Association and of Howard County Medical Society. He graduated from the Jefferson Medical College, Philadelphia, in 1860. He was a man who stood high in the estimation of every one in his community, and commanded the respect and confidence of the people, not only as a physician, but as a Christian and a gentleman of high ideals. His life was full of good deeds, and until declining years forbade his active participation in county society work, he was a faithful attendant at all meetings. An intimate friendship with this worthy member of our profession since 1867, enables the writer to testify to the high moral and mental qualities of our deceased brother. Our profession has been bereft and his patrons have been deprived of the counsel and companionship of one who possessed the unbounded confidence of all who knew him, for he was a right physician, with a long and successful experience in the treatment of the sick and the comforting of the afflicted.

C. W. W.

CORRESPONDENCE

To the Editor:

The St. Louis Neurological Society at a regular meeting, November 29, 1909, passed the following resolution:

Resolved, That it is the sense of this society that the welfare of the sick poor under State care in Missouri would be greatly enhanced by the establishment of the merit system of selecting officers and employees in the eleemosynary institutions.

We recommend the appointment by the Governor of a civil service commission, which shall examine all applicants, thus creating an eligible list from which all officers and employees must be selected.

Tinsley Brown, M. D.,
President Missouri State Medical Association,
Hamilton, Missouri.

Dear Doctor Brown:—

The Missouri Association for the Relief and Control of Tuberculosis has been authorized to handle for this State (outside of St. Louis) the Red Cross Christmas Stamps in the anti-tuberculosis cause, as a means of carrying on the war against that disease; and it is our desire that they shall be used as extenisvely as possible.

As you may know, this Association has, as yet, but few county branches, perhaps not more than a dozen in all, but where they exist we hope to induce them to take hold and sell the stamps to the sole advantage of their own community.

The stamps sell for one cent each, and the Red Cross people ask only twenty per cent. of the proceeds—thus leaving eighty per cent. to the sellers to meet expenses, etc., with privilege of returning those unsold.

I write for the special purpose of asking whether you would favor an appeal to the County Medical Societies to undertake this work in places where the anti-tuberculosis forces are not yet organized. If they would do this the funds thus derived would necessarily have to be expended in anti-tuberculosis work in each county, thus coöperating with us.

Kindly state your views as early as may be convenient as the stamps should be placed on sale by November 15th.

If the proposition should strike you favorably I will then ask that our correspondence be published in the Journal, and otherwise forward the undertaking in such manner as may be deemed proper.

The stamps are, of course, of no value for postage purposes, and are attached to correspondence merely as a neat means of attracting notice, and securing funds for a worthy cause.

Very truly yours,

George Homan,
President, Mo. Association for the Relief and Control of Tuberculosis.

Dr. Geo. Homan,
St. Louis, Mo.

Dear Doctor:—

I certainly approve of any move that will help to advance the worthy cause in which you are engaged. I approve the question of an appeal to the county societies throughout our State. The plan proposed in the sale of the Red Cross Christmas Stamps will work no hardship on any one who may see fit to help by the purchase, and the seller will be amply paid for the time spent in the sale of same.

Yours very truly,

Tinsley Brown,
President of the Missouri State Medical Association.

November 12, 1909.

To the Editor:

At the late meeting of the Ophthalmic Section, A. M. A. (eleven hundred members), the undersigned were appointed a committee to promote *a working knowledge of simple refraction* among family physicians.

It has secured abundant evidence that such knowledge has been acquired and is now used by many physicians, so proving that all medical men can do likewise, if they so desire.

But that the practice may become uniform, it is necessary that the State Boards of Registration require it for license and medical colleges teach it in course.

Recognizing its importance, the Michigan State Board of Registration, on February 12, 1909, notified medical colleges, that thereafter, it would grant licenses to practice only to such applicants as demonstrated, on a living subject, with simple spherical lenses and test types, their working knowledge of simple refraction.

Your committee is confident, that every State Board of Registration, would make a like requirement, if it grasped the situation; and then all medical colleges would qualify their students therefor.

Recalling the fact that our system of medical education makes no adequate provision for training the family physician in simple refraction, and that it be impossible for experts to meet the needs of all the people in this respect; it is plain that this class of cases had no source of relief other than the optician. But if the State Boards require a working knowledge of simple refraction for license, the needs of all the people will be fully met by qualified physicians, and the optician resume his normal vocation as a spectacle merchant.

Assuming your vital interest in enlarging the field of family practice, your committee confidently ask your active endeavor to persuade your "State Board of Registration" to require "a working knowledge of Simple Refraction" from each applicant for license.

Each member of your committee stands ready to assist you to a

fuller understanding of the situation, or to coöperate with you in seeking its relief.

With thanks for your aid, we remain,

Sincerely yours,

LEARTUS COSMOS, Chairman;
Detroit, Mich.
A. R. BAKER,
Cleveland, Ohio.
J. SHONINGTON,
Philadelphia, Pa.

91 Lafayette Boulevard, Detroit, Michigan.

TO THE EDITOR:

I should be very much obliged if you could insert the following item in your valued JOURNAL:

"The President of the American Gynecological Society has appointed a committee to report at the next annual meeting in Washington, on the Present Status of Obstetrical Teaching in Europe and America, and to recommend improvements in the scope and character of the teaching of obstetrics in America.

"The committee consists of the Professors of Obstetrics in Columbia University, University of Pennsylvania, Harvard, Jefferson Medical College, Johns Hopkins University, Cornell University and the University of Chicago.

"Communications from anyone interested in the subject will be gladly received by the chairman of the committee, Dr. B. C. Hirst, 1821 Spruce street, Philadelphia, Pa."

B. C. HIRST.

COUNTY SOCIETY NOTES

BENTON COUNTY MEDICAL SOCIETY.

The Benton County Medical Association met at Lincoln November 23d. Dr. W. G. Jones, of Lincoln, read a very interesting paper entitled, "Labor, Considered from the Standpoint of the Country Physician." This was discussed by Dr. Tinsley Brown, President of the State Association, and Drs. Rhodes, Schwald, Dillon, Stratton, Walton, Savage and Clark.

Dr. Dillon presented a clinic which was discussed by all present.

Dr. Harry Bay, of Cole Camp, was elected to membership.

Dr. Tinsley Brown gave a talk to the Society which was appreciated by all present, after which we had the election of officers for the coming year. The following were elected: Dr. N. A. Schwald, Cole Camp, president; Dr. J. H. Walton, Ionia, vice-president; Dr. Marion Dillon, Fairfield, re-elected secretary and treasurer; Dr. W. G. Jones, Lincoln, delegate to the State Association. Dr. H. G. Savage, Warsaw, alternate; Dr. Clark Fristoe, censor for three years.

The meeting adjourned to meet at the school house at 7:30 p. m., to which the public was invited and Dr. Brown, president of the State Association, gave a lecture entitled, "Problems of Public Health, Both National and State." There was a large attendance and the lecture, which was full of instructive ideas for the people, was highly appreciated by everyone who heard it. After the close of the session the doctors and their wives partook of a fine course banquet served at the Minter Hotel. —Marion Dillon, M. D., Secretary.

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY.

The Cape Girardeau County Medical Society held its regular monthly meeting at Cape Girardeau, Monday, November 11th, with the following members present: Drs. Hays, Henderson, Moore, Rosenthal, Schultz, Wichterich and Wilson.

After the transaction of the usual business, the scientific program was carried out, which consisted of the report of a case of pelvic cellulitis, by Dr. G. B. Schultz; a paper on the "Personal Experiences in Post-partum Hemorrhage and Its Treatment," by Dr. R. F. Wichterich; and a paper on "Placenta Prævia," by Dr. R. T. Henderson. Each subject elicited a good discussion. Dr. Henderson's paper will be submitted for publication in the Journal.—E. H. G. Wilson, M. D., Secretary.

CLAY COUNTY MEDICAL SOCIETY.

The regular September meeting of the Clay County Medical Society was held at the Elms Hotel, in Excelsior Springs, on September 27th.

There were present Drs. J. T. Rice, F. H. Matthews, J. H. Rothwell, J. J. Gaines, J. J. Rice, H. Rowell, W. S. Wallace, Frank Lightfoot, H. E. Nelson, Y. D. Craven, T. N. Bogart and George Musgrave.

An extremely interesting and instructive paper on "Rheumatism, Uric Acid and Nitrogen Poisoning," was read by Dr. J. J. Gaines and freely discussed by all present.

Dr. Frank Lightfoot reported two cases of retained placenta.

Dr. T. N. Bogart reported several cases of nephritis with unusual clinical manifestations.

Dr. W. S. Wallace reported a case of neuritis.—F. H. MATTHEWS, M. D., Secretary.

MEETING OF OCTOBER 25TH.

The regular October meeting of the Clay County Medical Society was held at the office of the secretary in Liberty, on October 25th, with the following named physicians present: Drs. J. T. Rice, F. H. Matthews, J. M. Allen, E. H. Miller, J. H. Rothwell, W. H. Goodson, R. E. Sevier, W. N. Cuthbertson, J. J. Rice, C. H. Suddarth, Bert Maltby, G. J. Musgrave and R. E. Ward.

Drs. George J. Musgrave and Hugo E. Nelson, of Excelsior Springs, were elected members.

Papers were presented by Dr. J. J. Rice on "Phlebitis" and Dr. E. H. Miller on "The Significance of Abdominal Pain." Both essays were of a high order and brought forth vigorous discussions.

A case of infantile paralysis was reported by Dr. Miller, and a case of hematuria by Dr. R. E. Sevier. Dr. Matthews reported a case of spina bifida.

A resolution was adopted to the effect that this society insist upon the prosecuting attorney of Clay County proceeding against all violators of the Medical Practice Act, and that the resolution be sent, with the names of all illegal practitioners, to each physician in the county.—F. H. MATTHEWS, M. D., Secretary.

HENRY COUNTY MEDICAL SOCIETY.

Henry County Medical Society met on Wednesday, October 20th, 1909, with the following present: Drs. Gibbins, McNees, Miller, Neeley, Haire and Douglass.

Dr. R. D. Haire read a paper on Serum Therapy, giving a short history of investigation and ideas that lead up to the manufacture, and the method of preparation, of the serums. He also gave the theory of the toxic and antitoxic battle that was going on at all times in the human system, and how these serums, by aiding the phagocytes to eat up the bacilli of disease, helped nature to effect a cure. He described the manner of using the serum and the doses required.

The paper was discussed by all present and the writer complimented on its good quality, and the many good thoughts evolved.

Dr. J. E. Neeley reported a case of typhoid fever, with complications of some interest.

MEETING OF WEDNESDAY, NOVEMBER 17.

Dr. E. C. Peelor reported cases of autointoxication and his method of treatment.

Dr. W. H. Gibbins spoke of typhoid fever, his treatment and the results.

Dr. A. J. McNees gave his views on the therapeutic use of and the quality of salicylate of soda (*Merrells*), urotropin and other remedies.

Dr. Gibbins then gave a short history of the last hours of Dr. Jno. H. Britts, the courage and fortitude shown by the doctor in discussing his symptoms, foretelling the outcome to the last moment, yet retaining a cheerful mental poise.

The following resolution was introduced and passed:

Death hath again entered our ranks, therefore we wish to give this testimonial of our high esteem and most respectful regard for our comrade, Dr. John H. Britts, who, during life, at all times was a devoted student of his profession, and a kind, considerate and helpful practitioner. His loss to all the people intensifies the loss we suffer in missing his counsel, his help and kind actions to us. We give our sympathy to his family whose bereavement is the greatest, and the public who will miss him in many ways. His precepts and example we can emulate. His work and many talks in our society meetings we can memorize to our advantage.—F. M. Douglass, M. D., Secretary and Reporter.

HOWARD COUNTY MEDICAL SOCIETY.

The Howard County Medical Society met at 2 p. m., Friday, November 5, 1909. Those present were: Drs. Joel Y. Hume, Richards, Bonham, Kitchen, Megee, Wright, Lewis, Thompson, Moore and Watts.

There were no clinical cases reported or papers read.

Resolutions regarding the death of Mrs. Emma G. Moore, wife of Dr. A. W. Moore, were adopted and ordered spread on the record book.

The following officers were elected for 1910: Dr. W. B. Kitchen, Glasgow, president; Drs. T. C. Richards and J. Y. Hume, first and second vice-presidents; Dr. C. W. Watts, secretary and treasurer; J. Y. Hume, member of House of Delegates; Drs. Lewis, Moore and Bonham, censors; also a committee of one from each town in Howard County to look after chiropractics.—C. W. Watts, M. D., Reporter.

MISSISSIPPI COUNTY MEDICAL SOCIETY.

The Mississippi County Medical Society met in regular session at Charleston, on September 6th. Present: Drs. Lynch, Boone, Reid, Chapman and Howle, of Charleston; Drs. Wallace and Love, of Bertrand. Visiting physicians: Drs. Marshall and Vernon, of Charleston.

On report of the membership committee, Dr. John C. Boone was elected a member. The membership committee asked for more time to consider the application of another applicant, which was granted.

A communication was read from the editor of the Journal.

A number of cases from practice were reported, and interesting discussion of the conditions followed each report. Dr. Reid reported a case of typhoid fever, which had begun with indications of malarial fever and the patient apparently was convalescing from this attack, but some two weeks after malaria had been under control, symptoms of typhoid fever presented, the temperature ranging from 102 to 103.4. He made a smear which was sent to Dr. McConnell, bacteriologist to the State Board of Health, who reported the Widal test negative. Dr.

Reid, however, clung to the opinion that the condition was typhoidal, since the symptoms observed in the course of the treatment excluded every other condition except typhoid fever. Dr. Reid reported several other atypical cases of fever, some of which gave a positive Widal reaction.

In the discussion of the paper, Dr. Reid was asked what symptoms he would consider indicative to justify the diagnosis of typhoid without the assistance of a blood examination. Dr. Reid said he could refer to text-books and then make a more complete picture.

Dr. Boone gave the prominent symptoms seen clinically in typhoid and said that he would treat such a case as one of typhoid fever, even though the Widal test—which in his opinion was not as reliable as we could wish it to be—failed to establish the diagnosis. Dr. Chapman said that a case of fever which resisted quinine for several days, should be suspected of being typhoid. Dr. Reid mentioned another case which had been treated as typhoid fever for several weeks, but upon examination of the sputum, it was discovered that the patient was afflicted with tuberculosis. Dr. Howle asked for a report of a case of typhoid in a patient over forty years old, and asked if any of the doctors present had ever seen typhoid in a person over forty years of age. Dr. Howle said that Dr. T. S. Bell, a noted physician of Louisville, and a teacher in the university in that town, had taught his pupils, in the sixties and seventies that people over forty years old were immune to typhoid, because of the belief that after this period there were no Peyer's patches, Peyer's glands being the seat of the infection. Dr. Boone mentioned a case in which the patient had four successive attacks of typhoid, the last attack when thirty-five years old. Dr. Chapman reported that he had seen typhoid fever without a rise of temperature, in fact, the temperature was subnormal. Dr. Marshall reported a case that presented symptoms of a mixed infection of typhoid fever and tuberculosis. Dr. Lynch reported a case which he had diagnosed as typhoid on the second day after beginning treatment.

Dr. Boone promised to read a paper at the next meeting on the subject of "Benefits of Urinary Analysis."

MEETING OF OCTOBER 4TH.

At this meeting the following members were present: Drs. Wallace and Love, of Bertrand; Drs. Boone, Chapman, Howle and Reid, of Charleston; visiting physician, Dr. Vernon, of Charleston.

The secretary read a communication from the editor of the JOURNAL.

Dr. Boone read a paper on "Benefits of Urinary Analysis," in which he showed the advantages to the general practitioner coming from a routine procedure of this kind. The paper was well received, and the doctor highly complimented upon the manner in which it was prepared.

In the discussion of the paper Dr. Chapman said that urea, according to his understanding, was not a product of the liver solely, but was found in the muscles and elsewhere throughout the body. He considered it the duty of every physician to have a knowledge of the use of the microscope and to study the excretions and secretions. A study of the products of the economy, he believed, would often furnish a clue to the diagnosis of many maladies. Dr. Wallace asked how urea showed symptoms of being the cause of disease. Dr. Howle asked if Dr. Chapman was an orthodox in his belief as to the so-called uric acid diathesis. Dr. Chapman replied by saying that lumbago, muscular rheumatism,

shooting pains, and such like symptoms, were relieved by active elimination. Dr. Howle wanted to know whether urea could be considered as having any influence in causing puerperal convulsions. To this question the members gave a negative answer, but Dr. Howle said he was not yet convinced.

Dr. Chapman reported a case of cerebral lesion in a man of 52 years of age. The patient was unable, after exercising to any extent, to articulate certain words, could not write or make calculations correctly, not even add simple numbers, although when in normal condition he was an expert accountant and bookkeeper. He knew when words were rightly pronounced, but could not himself pronounce and spell them. Reflexes were normal, and there were no symptoms of ataxia.

The report was fully discussed by the members, Drs. Boone and Vernon being of the opinion that the condition was of syphilitic origin. Dr. Chapman thought a thrombosis might be the cause, with perhaps a slight hemorrhage. He stated that the case was improving under mercurials and the iodides. Dr. Vernon considered the prognosis unfavorable, but Dr. Brown thought large doses of the iodides would relieve the condition.

BOOK REVIEWS

A Treatise on Diseases of the Nose, Throat and Ear. By William Lincoln Ballenger, M. D., Professor of Laryngology, Rhinology and Otology in the College of Physicians and Surgeons, Chicago. New (2d) edition, thoroughly revised. Octavo, 930 pages, with 491 engravings, mostly original, and 17 colored plates. Cloth, $5.50 net. Lea & Febiger, Philadelphia and New York, 1909.

No better proof of the excellency of this volume could be advanced than the fact that within one year a large first edition has been completely exhausted. This, the second, edition presents a very thorough revision of the work.

Surgery, Its Principles and Practice. By various authors. Edited by William Williams Keen, M. D., L.L. D., Emeritus Professor of the Principles of Surgery, Jefferson Medical College, Philadelphia; and John Chalmers DaCosta, M. D., Professor of Surgery, Jefferson Medical College, Philadelphia. Volume IV. with 582 illustrations, 22 of them in color. Philadelphia and London, W. B. Saunders Company, 1908. Per volume, cloth, $7.00, net.

This fourth volume in every respect is up to the excellence of the three preceding ones. The careful and appropriate selection of authors for each subject is well exemplified in this volume. It contains monographs, among many others, by Coley, on Hernia; by Cabot, on Vesical Stone; by Young, on the Prostate; by Murphy, on the Appendix. A chapter on Surgery of the Bladder is written by Dr. Bransford Lewis, of St. Louis. The chapters dealing with Military and Naval Surgery are

contributed by the Surgeons General of the respective U. S. Departments. There are most important contributions on the question of Tropical Surgery and on the "Influence of Race, Sex and Age in Surgical Affections." One more volume will complete this monumental work which truthfully depicts the present status of surgery as understood and practiced by the most eminent specialists of the world.

The Practitioners' Visiting List for 1910. A valuable pocket-sized book containing memoranda and data important for every physician, and ruled blanks for recording every detail of practice. The Weekly, Monthly and 30-Patient Perpetual contain 32 pages of data and 160 pages of classified blanks. The 60-Patient Perpetual consists of 256 pages of blanks alone. Price by mail, postpaid to any address, $1.25. Thumb-letter index, 25 cents extra. Lea & Febiger, Publishers, Philadelphia and New York.

The Medical Record Visiting List. Wm. Wood & Co., 51 Fifth Ave., New York, N. Y.

This Visiting List is in all respects a suitable pocket record of the daily work of the physician. It is fully up to the standard of previous Medical Record Visiting Lists. It is issued in volumes of thirty and sixty patients a week.

The Physician's Visiting List for 1910. Philadelphia, P. Blakiston's Son & Co., 1909.

The Visiting List issued by Blakiston is now in its 59th year. It contains all the good features of previous issues and the usual tables of reference. The various editions contain space for from twenty-five to 100 patients a week or month.

The Psychic Treatment of Nervous Disorders. By Dr. Paul Dubois, Professor of Neuropathology at the University of Berne. Translated and edited by Smith Ely Jelliffe, M. D., and William A. White, M. D. Sixth Edition. Revised. Funk & Wagnalls Company, New York and London. 1909. Price, $3.00, net.

This book has become a classic and the appearance of a sixth edition best proves its popularity both among physicians and the lay public.

The Annals of Surgery issues its fiftieth volume. On January 1st, 1885, there appeared in the literary medical world the first number of a new journal, given up entirely to general surgery. This radical departure from the old lines had the full endorsement of a large number of the leaders in surgery, both in Great Britain and the United States, among whom was Lord Lister, whose name led all the rest on the title-page. The seed was good, the soil fertile, and the journal grew and prospered. To-day its the Annals of Surgery of Philadelphia. In December its subscribers will be treated to a choice collection of twenty-two original articles in the form of a jubilee number. Eminent surgeons from England, Scotland, Denmark, France, Italy.

ARTICLES APPROVED BY THE COUNCIL ON PHARMACY AND CHEMISTRY.

SUPRARENAL ALKALOID.

The active alkaloid of the suprarenal (epirenal or adrenal) glands.

Actions and Uses.—Suprarenal alkaloid acts peripherally on a variety of structures, probably by stimulating the sympathetic nerve endings. Its most important therapeutic actions consist in a constriction of the blood vessels, with consequent high rise of blood pressure; a stimulation of the vagus center with slowing of the heart, and a direct stimulant to digitalis. Large doses also cause glycosuria; continued administration of large doses leads to atheroma. The effect of a single dose is very fleeting. It is not irritant. The effects are seen on local application and intravenous and intramusclar injection. When given to animals, by mouth or hypodermically, moderate doses have almost no action. Dilute water solutions rapidly lose their strength, the deterioration being accompanied by a reddish or brownish discoloration. The alkaloid is used mainly locally for its vasoconstrictor action, in hemorrhage, and in catarrhal and congestive conditions. It is said to cut short the asthmatic paroxysm (being used by spraying the larynx and by hypodermic injections). Intravenous injections are effective in shock and anesthesia accidents (care being taken not to give an overdose). It has also been recommended in heart disease, Addison's disease, etc., but opinions are divided as to the benefits to be expected from oral administration.

TANNIGEN.

Tannigen, $C_{14}H_8(C_2H_3O)_2O_9=C_{18}H_{14}O_{11}$, is the acetic acid ester of tannin.

Actions and Uses.—Tannigen passes unchanged into the intestine, where it becomes effective as an astringent in contact with the alkaline juice. It is said to be free from irritant action. It is recommended in acute diarrhea affections, such as acute intestinal catarrhs, cholera morbus, cholera infantum and dysentery; it has also been used with reported success for the diarrhea of typhoid fever and intestinal tuberculosis. Dosage.—0.2 to 0.7 Gm. (3 to 10 grains) four times per day, dry on the tongue followed by a swallow of water; or mixed with food, avoiding warm or alkaline liquids. Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York).

TANNALBIN.

Tannalbin is a compound of tannic acid and albumin thoroughly exsiccated.

Actions and Uses.—Tannalbin is astringent. Being insoluble in the gastric juice, it becomes effective when it reaches the intestines, where it slowly splits off tannic acid. It does not produce gastric disturbance. It is recommended in diarrhea, especially in that of children, and in phthisis. Dosage.—1 to 4 Gm. (50 to 60 grains) in powder (or tablets) followed by water; infant doses, 0.3 to 0.5 Gm. (5 to 8 grains) in gruel or other mucilagious liquid. Manufactured by Knoll & Co., Ludwigshafen a. R. and New York.

TANNOFORM.

Tannoform, $CH_2(C_{14}H_9O_9)_3=C_{29}H_{20}O_{18}$, is a condensation product of formaldehyde with gallo-tannic acid.

Actions and Uses.—Tannoform is astringent and antiseptic. It is recommended on account of these properties in chronic intestinal catarrh and externally in hyperidrosis, bromidrosis, weeping eczema, ozena, etc. Dosage.—0.25 to 0.5 Gm. (4 to 8 grains); externally, pure or in 25 to 50 per cent. triturations (with talc) as dusting powder or as 10 per cent. ointment or soap. Manufactured by E. Merck, Darmstadt (Merck & Co., New York).

TANNOPIN.

Tannopin, $(C_{14}H_{10}O_9)_3.(CH_2)_6N_4=C_{48}H_{42}O_{27}N_4$, is a condensation product of tannin with hexamethylenamine.

Actions and Uses.—Tannopin is an intestinal astringent and antiseptic; it passes unchanged through the stomach, but, being gradually decomposed by alkalies, it becomes effective in the intestinal tract, exerting the action of its two components. Dosage.—0.3 to 0.5 Gm. (5 to 8 grains) for infants and children; 1 Gm. (15 grains) for adults, dry on the tongue, followed by a swallow of water, or sprinkled on food, four times a day. Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York).

THEOBROMINE.

Theobromine, $\begin{matrix} N(CH_3).CH:C.N.(CH_3) \\ | \quad\quad\quad\quad | \quad\quad\quad | \\ CO\text{————}NH.C=N \end{matrix}\!\!\diagdown\!\!\diagup CO=C_7H_8O_2N_4$, is a base occurring in *Theobroma cacao*, *Kola acuminata*, etc., and also made synthetically.

Actions and Uses.—Its uses are similar to caffeine, but it has relatively greater diuretic, cardiac and muscular activity. It does not act so powerfully on the central nervous system. It is recommended as a diuretic. The great obstacle to its use has been its insolubility and the consequent uncertainty of the degree of its absorption. It is liable to produce gastric disturbances. Dosage.—0.35 to 0.5 Gm. (5 to 8 grains).

THEOBROMINE SODIUM SALICYLATE.

Theobromine sodium salicylate, $NaC_7H_7N_4O_2+NaC_7H_5O_3$, is a double salt of theobromine-sodium and sodium salicylate.

Actions and Uses.—Its effects are the same as those of theobromine (which see), over which it has the advantage of greater solubility. Dosage.—1 Gm. (15 grains) five or six times a day. Its tendency to produce gastric irritation may be prevented by giving it in well-diluted solution, or, if preferred, in capsules or wafers, followed by water.

THEOPHYLLIN.

Theophyllin, $\begin{matrix} N(CH_3).CO.C.NH. \\ | \quad\quad\quad\quad\quad\quad || \\ CO.N(CH_3).C.N: \end{matrix}\!\!\diagdown\!\!\diagup CH=C_7H_8C_2N_4$,

is an organic base isomeric with theobromine; it is found in small amounts in tea, and is also made synthetically.

Actions and Uses.—Theophyllin is a powerful diuretic, claimed to surpass all other remedies of this kind, increasing not only the amount of liquid, but the solids in the urine as well, the secretion of urine being sometimes very copious. The diuretic effect, however, is not prolonged, and its administration is, therefore, advantageously followed by one of the theobromine derivatives having a weaker, but more persistent, action. It occasionally produces gastric disturbances, and renal irritation has also been reported. It is claimed that these may be obviated by the use of acettheocin-sodium (which see) instead. It is recommended in cardiac affections, nephritis, dropsy, etc. Dosage.—0.2 to 0.35 Gm. (3 to 5 grains) in warm tea.

THIOCOL.

Thiocol, $C_6H_3(OH)\ (OCH_3)\ (KSO_3)\ 1:2:6=C_7H_7O_5KS$, is the potassium salt of ortho-guaiacol sulphonic acid.

Actions and Uses.—Thiocol is said to be non-irritating to the mucous membranes of the digestive tract, readily absorbed and is claimed to promote appetite and improve nutrition. It is recommended in pulmonary tuberculosis, acute and chronic bronchitis, pneumonia, whooping cough, emphysema of the lungs, etc., as a means of relieving expectoration, diminishing night sweats and improving nutrition. Dosage.—0.3 to 1.3 Gm. (5 to 20 grains), in solution with orange syrup or in tablets. Manufactured by F. Hoffmann-LaRoche & Cie, Basel, Switzerland (The Hoffmann-LaRoche Chemical Works, New York).

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ORIGINAL ARTICLES

SOLIDIFIED CARBON DIOXID AS A TOPICAL AGENT.*

By Joseph Grindon, M. D., St. Louis, Mo.

The local use of liquid air for the removal of pigmentary and vascular blemishes and small growths from the skin was demonstrated by Dr. Chas. T. Dade, of New York, before the American Dermatological Association in December of 1905. Dr. Trimble, of the same city, had also experimented with this agent. Dr. Henry H. Whitehouse[1] reported a number of cases treated in this manner, before the American Medical Association in June, 1907, and in September of the same year Dr. Dade again demonstrated the method before the Sixth International Dermatological Congress at New York. While all present were much impressed with the simplicity, relative painlessness and efficacy of the procedure, they at the same time realized the difficulties in the way of its general adoption. Liquid air for use in this country must be shipped from New York in open "Dewar bulbs," evaporating all the way, and although there may be plenty left when it reaches its destination, a few days later all will have disappeared. This makes its use too troublesome and expensive away from the city where it is made.

These considerations led Dr. W. A. Pusey, of Chicago, to seek for a substitute, which he found, although of lower efficiency, in solidified carbon dioxid.[2] Liquid carbon dioxid is easily obtainable everywhere at a low cost. It is furnished in "drums" by the manufacturers who supply it for soda fountains and beer saloons. These "drums" are closed by a

*Read in the Medical Section Fifty-second Annual Meeting, Missouri State Medical Association, Jefferson City, May, 1909.

[1]J'l A. M. A., August 3, 1907.

[2]See discussion of Dr. Whitehouse's paper, loc cit., also J'l A. M. A.

valve, so that the amount needed can be easily withdrawn and the remainder preserved for months. A 20-lb. drum, the size most convenient for physicians will furnish enough for a number of applications, making each application cost about 25 cents. On opening the valve and thus suddenly reducing the pressure, the liquid rapidly volatilizes, and rushes forth as a gas mixed with minute spherules of the liquid, looking just like escaping steam. So much heat is thereby rendered latent that the gas, when properly collected, as detailed below, immediately recondenses into a powdery solid presenting the exact appearance of snow.

The method devised by Pusey and since used by myself and others is as follows: The drum is laid horizontally across a chair or other convenient support, and a chamois skin folded so as to form a bag held over the vent. This end of the drum is then lowered so that the gas which fills that part of the drum not occupied by liquid may rise to the other end, leaving only liquid next the valve. The valve is then opened and gas allowed to escape into the chamois skin for a few seconds, where it at once condenses into snow. This may be made into a snowball and then cut down with a knife into the shape desired, or packed into a mold, such as a short section of hard-rubber tubing, from which it may be pushed out with the blunt end of a lead-pencil. The little mass can be held in a small piece of chamois skin to protect the fingers of the operator. On lifting it off the surface, we find a snow-white frozen area of stony hardness, which thaws out in about twice the time occupied in making the application. This is accompanied by a stinging sensation slightly more acute than that of the freezing itself. A wheal soon develops which, after some hours, is replaced by a bleb, later drying down into a crust. The duration and tenseness of the blister, the thickness and adhesion of the crust, and the final result, vary with the length of the application and the pressure employed. The latter one learns to gauge by practice. As to time, with pressure sufficient to fix the freezing agent to the skin, an application of from 5 to 10 seconds will excite a therapeutic degree of inflammation such as may be useful in lupus erythematosus. Where superficial destruction and scarring are desired, as in port-wine marks, 20 or 30 seconds are required, although I have sometimes in such cases cautiously advanced to contacts lasting 40 to 45 seconds. For deep destruction of small areas, single longer applications are occasionally necessary.

I believe that solid carbon dioxid—freezing at —90 C.—is inferior for most purposes to liquid air, which has a temperature of —180 C., or twice as cold. I question whether the former would often be employed if the latter were everywhere available; but, under existing circumstances, carbon dioxid has a field of undoubted usefulness in lupus erythematosus, flat angiomata, small cavernous angiomata, pigmented naevi, warts, senile keratoses and small superficial epitheliomata. In extensive flat angioma, repeated applications, separated by intervals of two weeks, are advisable; so that the treatment as a whole may extend over a year or

more. Still, in view of the unsatisfactory results of other forms of treatment, it is well worth the time and trouble. In dark-bluish, raised, warty, cavernous naevi, unless quite small, the treatment has so far in my hands proved a failure, and this I say with full knowledge of the successes claimed by certain reporters. In such cases the injecting of water at a boiling temperature gives the best results. In flat naevi, however, the results are good, although it may sometimes be necessary to work several times over the same surface. It is better to be satisfied with a moderate degree of blanching after each application, and thus to avoid the risk of unsightly scarring.

The best technic in flat naevi consists in preparing a small cube or square rod, measuring 1-3 to ½ inch in each diameter, with which we freeze 3 to 5 squares at a sitting, arranged checker-board fashion. At the next sitting we treat the squares left between the first series. Otherwise there would be overlapping of margins which would be overtreated, while areas between would remain undertreated.

While results have not always been brilliant, they have generally been satisfactory. I can safely say that the method is simpler, easier of application, and, in properly selected cases, gives better results than any other with which I am acquainted, excepting only that by liquid air.

3894 Washington Boulevard.

DISCUSSION.

Dr. Geo. W. Goins, Breckenridge: This method is so new that not many of us have put it to a practical test, so that it is difficult to discuss it.

Dr. Grindon, in closing: I have nothing to add but that this is so cheap and easy that I would advise you to try it.

THREE more roads have established deathless records. For the fiscal year ending June 30 last the Northwestern carried 27,000,000 people without a single fatality to a passenger. During the same period the Santa Fe carried 12,605,697 passengers safely over an average of 9,794 miles of road operated.

This remarkable record was also attained by the Rock Island system, which company carried a total of 18,743,022 passengers during the fiscal year ending June 30, 1909, without a fatality. The Rock Island runs trains in twelve different states, and its numerous passenger trains last year made a total of 16,411,550 passenger miles. The record of the Rock Island is more remarkable than some of the others by reason of the fact that much of its train operation is through comparatively new country in which railroad construction is not of the high grade it has attained in more thickly settled portions.—*Railway Surgeon.*

OBESITY.*

By W. K. Statler, M. D., Oak Ridge, Mo.

While a certain degree of obesity is always an enviable condition, it frequently assumes undesirable proportions which cause it to become, to say the least, a source of embarrassment, and may be a great inconvenience or even bodily danger. It is then the condition becomes of interest to the physician and asserts itself as one of the many perplexing problems which he is called upon to solve.

Only occasionaly is the general practitioner consulted by individuals concerning their corpulent anatomy, but very often, while being consulted for other conditions, does he find it advisable to recommend measures for the reduction of obesity.

What obesity really is may be briefly stated as a metabolic disorder characterized by an excessive development of the body fat.

How and why this fat formation comes about has long been, and still is, a subject of considerable inquiry as well as dispute.

The subject of intermediary metabolism, termed by the celebrated physiologist Foster as "the gaps and guesses of nutrition," remains an unsolved problem, and the progress of physiological chemistry only serves to render it more complex.

We were long content with the idea that practically all metabolic activity came about by the presence of oxygen in the blood stream; and much credit is due the famous French chemist, Lavosier, for giving us this important stepping-stone in physiological science. But now we recognize the living cell as the laboratory where the chief metabolic changes occur and that oxydation, which was formerly thought to be a relatively simple chemical process, is the result of a very complex succession of intracellular chemical changes. That these intracellular chemical processes are due to ferments or enzrmes is now prominently considered.

At this time our knowledge of the fat-forming food is somewhat imperfect, due to the fact that the ideas given us by our master workers on this subject are, strange to say, very unstable, as well as conflicting.

Until about fifteen years ago, it was generally believed and taught by all physiologists that carbohydrate food was the chief source of fat formation; then the scientific mind turned and we were told that our ideas on this subject were erroneous and that the chief fat builders were not carbohydrates but proteids, and that the carbohydrates only served

*Read in the Medical Section, Fifty-second Annual Meeting, Missouri State Medical Association, Jefferson City, May, 1909.

to act in that capacity by laying themselves on the burning altar of metabolism in order that the proteids might be saved and stored as fat.

To-day we find ourselves in a quandary, for again our masters tell us that carbohydrates are unquestionably the chief builders of fat and that the proteids occupy a very inferior role, if any at all, in this process. No less authorities than Professors Chittenden and Mendel have this to say on the subject: "With reference to proteids as fat-forming elements, it is impossible to make any conclusive statement at present; the evidence is by no means convincing and there is a tendency to regard such a process as unlikely, if not impossible." Thus the trend of scientific thought; and well may be applied to physiology, as to other sciences, the saying, "The knowledge of to-day is the ignorance of tomorrow." Theoretical knowledge, however, must of necessity undergo certain evolutionary stages before great truths are born, and progress in science can only be made by playing the game fairly, regardless of the fact that popular sentiment and fixed ideas may suffer.

In the past, practically all writers on the subject of obesity have maintained that, in the fat reduction process, the nitrogenous equilibrium must be maintained by a certain given minimum standard of proteid food; but the revelations of the Sheffield Scientific School of Yale University during the past few years, under the direction of Professors Chittenden and Mendel, have in a certain sense revolutionized the subject of nutrition and dieteties. In an extensive series of experiments on individuals of different occupations they found that nitrogenous equilibrium can be maintained on fifty per cent. less proteid food than had been the minimum standard accepted by the ablest investigators for many past decades. Reasoning from the findings of these experiments, they maintain that it is probable, since the greater part of the nitrogen contained in an ordinary diet is speedily eliminated, the proteid food can satisfactorily be altogether replaced by other food-stuffs, and while there is no ground for recommending it, there is no question but that life and vigor can be maintained upon an exclusive vegetable diet.

Professor Anders, of Philadelphia, in a masterful article on the subject of obesity, says: "The source of fat is considered to be the fats and carbohydrates taken as food, although probably it is derived to a considerable extent from albuminoids. A striking illustration of an increase of adipose tissue from proteids is seen in the present day method of treating tuberculosis with milk and raw eggs." He further says that, "excessive indulgence in any one of the varieties of diet may produce the condition of obesity." This statement, in spite of conflicting opinions, is in my opinion the paramount point of interest. The condition of obesity is the result of quantity rather than of quality of food-stuffs.

Carefully considered, the evidence sums itself up to the proposition that if more calories are ingested in the form of either carbohydrates, proteids or fats, than is necessary to maintain nutritive equilibrium,

obesity will result; and if fewer calories are introduced than normally required, the fat reserve will first be called upon to make up the deficit.

Considering the subject in all its aspects, while it must be admitted that heredity, temperament, occupation, age, sex, etc., play minor rôles in its causation, the fact remains that the chief cause of obesity is the prevalent world-wide sin of over-eating. To observe this habit of over-eating, one has but to listen to the orders given the waiters and watch the other fellow eat, while patiently awaiting his own order, in our restaurants and hotels. It is indeed amazing to see what the human stomach will tolerate.

While it is a matter of common reamark, as well as the dictum of some of our ablest writers, that the large, corpulent persons are spare eaters, my observation has not substantiated this; on the other hand, I find that the large Falstaff-like individuals are habitually large eaters.

The treatment of obesity, therefore, resolves itself into the task of making a temperate person out of an intemperate one. Self mastery is a much coveted goal but the gratification of the appetite has so long been a thorn in the flesh that it is with difficulty eradicated. Perseverance, however, on the part of the patient, doctor and cook will, in the majority of instances, be rewarded by satisfactory results.

In all text-books and special monographs on the subject of obesity will be found dietaries for its treatment, but as these articles are frequently written by foreign authors the food preparations mentioned are either unknown or are out of reach of the average cook. For this reason I will mention a dietary that almost anyone can carry out and that has served me well in several instances in which the patients were reduced at the rate of about one pound daily for a period of sixty to seventy-five days, without apparently impairing the general health or causing serious inconvenience in the way of hunger, weakness or abdominal distress.

In order to be exact in the prescribing of a dietary for an individual many things must be taken into consideration, *e. g.*, age, weight, height, previous habits and general constitutional condition; but in a general way I believe this dietary will meet the demands of the average healthy, obese adult, who is not in advanced age and whose organs are functionating in a healthy condition and whose tasks impose upon himself a reasonable amount of exercise and not too strenuous labors.

The following is the dietary I have used:

BREAKFAST.

One apple or orange.
One slice of thoroughly toasted light-bread (with butter if desired).
One soft boiled egg.
One cupful of coffee without sugar.

9:30 A. M.

Eat an apple or an orange.

Noon-day Meal.

One large dish of vegetable or animal soup.
One moderate-sized piece of either beef, pork or poultry.
A moderate quantity of either tomatoes, cabbage, celery, peas or beans.
A moderate dish of raw or cooked fruit, very sparingly sweetened.
One glassful of water.

3:30 P. M.

Eat an apple or an orange.

Evening Meal.

One soft boiled egg.
A small piece of cheese (about 1½ oz.).
One cracker or slice of light-bread.
One cupful of tea without cream or sugar.

No fluids are to be taken at meals except as indicated, and none between meals, except a glassful of water on rising in the morning and one three hours after food is taken.

The fuel value of this dietary I have estimated to be about twelve hundred calories, while the amount usually estimated necessary to maintain nutritive equilibrium is about twenty-five hundred calories.

In presenting this dietary I do not offer it as anything new. It is simply the result of a combination of those ideas given us by the men who have given this subject special study. Being a country practitioner I have arranged it so that it can be applied in a practical manner. While it has served me well in several instances I am fully aware that it will not serve all alike. It will, however, in all cases, serve to teach the lesson of temperate eating; and this alone being accomplished our advice would not be given in vain.

Professor Osler makes the extraordinary statement that over-eating is a "vice more prevalent and only a little behind over-drinking in its disastrous effects."

Some able writers suggest that living at a fairly high protein level the body is more resistant to disease and other emergencies than when the protein level is low; on the other hand, the elimination of the excess of nitrogen consequent to taking a heavy protein diet may become physiologically burdensome, if not harmful, to the extent that conditions arise much more harmful than obesity.

In closing, it may truly be said that much work remains to be done on the subject of nutrition and metabolism, but when we consider the great number of enthusiastic truth seekers in our modern laboratories we cannot help but have faith in the future solution of this intricate problem.

The value of such knowledge may well be expressed by the following words quoted from that prince of physiological chemists, Von Leyden: "The healthy and orderly conduct of our daily life is intimately associated with three important factors: nutrition, work and sleep. A

measured participation in these closely interdependent things will preserve health, prolong life and perfect the valuable habits of regularity, moderation and self control. Nutrition should, therefore, be looked upon as an important function—as a duty of man toward himself."

DISCUSSION.

Dr. Joseph Grindon, St. Louis: In one point I would not quite agree with the essayist, *i. e.*, that the chief cause of obesity lay in the total amount of food consumed. There is one thing more important, and that is the peculiar character and make-up of the tissues, whether they are fat-builders or not. You know you can take a Berkshire and a razor-back, and feed them exactly the same things and exactly the same amount, yet the razor-back will still be a razor-back, and the Berkshire a Berkshire. The work of Chittenden and the men associated with him has been of immense value in showing how little we need, to meet the wear and tear of tissue metabolism, how little tissue-proteid. I find the diet given by the doctor gives splendid results, associated with the idea of Schweninger, of cutting off the use of liquid at meals. Epstein's method is to feed fat largely, the result being that the patient will need less total food. The idea of cutting off fluids is most important. Eat all you want, dry, and with the meal have no liquid, but two hours after meals drink a glass of water. I think it works this way: the fellow gets tired of eating, and quits. I presume Cathcart's plan has been tried by all of you. I would like to hear reports on that. I have had absolutely no results from it. We all remember the fable of the frog who set himself up as a physician, and was taken to task for being so lantern-jawed himself. On the other hand I believe the time will come when it will be considered disgraceful for a doctor to weigh anything over two hundred pounds.

Dr. R. T. Sloan, Kansas City: I feel under obligations to Dr. Grindon for telling us why, in cases of obesity, it is advisable to limit the amount of water. It is taught in Germany that to reduce flesh we must reduce the liquid, and so firmly fixed is this idea in the layman's mind that many will try to take on flesh by drinking quantities of water. There are three things to take into consideration: First, heredity. There is where your razor-backs get their fine finish. They are skinny and they will stay so. You see people the same way. Then there is the question of diet. A patient is put on blue-grass and alfalfa and told to keep on eating blue-grass and alfalfa until he gets thin. We have been told that we eat too much. It is undoubtedly true that we can get along on much less proteids and carbohydrates. A certain extra amount of muscular exertion daily is also advisable in the reduction of fat. With a tractable patient it is not difficult to reduce his weight, but the difficulty is to keep it reduced. The treatment the essayist has given us is practically nothing but an alfalfa diet until the patient has used up his fat. But when the

patient has used up his adipose tissue and we have gotten him down to a suitable degree of rotundity, what are we going to do then? Certainly the diet given is not sufficient to maintain health. There is the difficulty: to give a sufficient quantity of food to maintain health and at the same time to keep down the weight. I have tried vichy and kissingen without much success. I have tried the thyroid treatment and it seems most unreliable. I would offer merely as a suggestion the use of ergot. It lowers the carbohydrate nutrition always. I have seen numerous instances where it reduced the body weight, the reduction being maintained after the abandonment of it. Of course, I would not recommend it in the case of patients with nephritis, arteriosclerosis, etc.

Dr. Franklin E. Murphy, Kansas City: The chairman cannot refrain from making reference to the relationship existing between gout, diabetes and obesity. It is important in the treatment of obesity to insist that the patient have not too many hours of sleep. Fat individuals may be very anemic. This feature of the case should not be overlooked.

Dr. Statler, in closing: I do not disagree with Dr. Grindon or Dr. Sloan. In my paper I said my plan was nothing new, it was simply a reduction of diet and putting in plain articles of food not mentioned in the dietary of many authorities. As far as heredity is concerned, a man might inherit a big appetite, or the reverse. Dr. Grindon said yesterday that he ate meat but once a week. Perhaps that accounts for his lack of weight. As to what to do after reducing the weight, I have noticed that, after having become reduced on this diet, the patient does not go back to excessive eating again. I know of one case where a colleague took kissingen and vichy and did not get a good result; he then went to another physician, who advised thyroid extract and adrenalin. While on this treatment he was very nervous but his weight was reduced. As soon as the treatment was stopped he began to gain in weight.

The Putnams will soon publish a volume by Frederick Meakin, Ph.D., entitled *Function, Feeling, and Conduct.* This book is a convincing statement of the philosophy of morals as grounded in human nature. Concerned with a subject that is vital and fundamental in human relationships, it is bound to make an appeal to all thoughtful readers. The author has ransacked the philosophies of the ages, and in the upbuilding of his system invokes the authority of the past. But his work shows everywhere the indications of original and searching thought, and a directness of presentation that will appeal to every reader.

A CRITICAL REVIEW OF A SERIES OF APPENDIX CASES.

By L. A. Todd, M. D., St. Joseph, Mo.

The purpose of this paper is to present to the society the clinical observations made upon a series of cases of appendicitis. The cases from which the report was taken have been in the practice of Dr. C. H. Wallace and myself, and cover a period of four years: 1905-1906-1907-1908. A careful clinical record has been kept of all patients and an attempt has been made to follow their progress after leaving the hospital, as we appreciate the fact that a surgeon's duties do not end with a hospital discharge.

The series comprises 106 patients who underwent 115 operations for appendicitis, 9 patients being operated upon twice; the first operation consisting of simple coeliotomy with drainage and the second operation the removal of the appendix some weeks or months later. There were also 15 additional cases in which a pathological appendix was removed during the course of operations for other diseased conditions of the viscera.

Age. The average age of the 106 patients was 23 years, 4½ months. The oldest was 56 and the youngest 4. There were 3 cases in one year at the age of 4, all with peri-appendicular abscesses from perforation of the appendix. In dividing the cases according to decades the records show the following:

Up to and including 10 years,	10 cases
From 11 to 20 inclusive.....	33 cases
From 21 to 30 inclusive.....	38 cases
From 31 to 40 inclusive.....	17 cases
From 41 to 50 inclusive.....	7 cases
Over 50	1 case

Sixty-six per cent. occurred in patients under the age of 30.

Male and Female. There were 56 males and 50 females. Of 25 cases occurring over the age of 30, 9 were females, 36 per cent. Of 43 occurring under the age of 20, 17 were females, 37 per cent. Thus a majority of the operations upon females for appendicitis lay between the ages of 20 and 30.

Thirty-seven patients were married, or about one-third.

Previous Illness or Functional Disturbances. As to previous illnesses antedating the attack by a short interval we noted the following: influenza 2 cases, pneumonia 1, typhoid 9, rheumatism 1.

As to functional diseases of the abdomen complained of by the pa-

tient and cured or relieved by removal of the appendix the following were noted: slight attacks of abdominal colic extending over months or years, 14 cases, stomach and intestinal indigestion 19, constipation (marked) 7, although constipation did not seem to be a prominent factor in the causation as has been thought, and diarrhœa 3 cases.

Two patients had suffered injuries (contusion) to the side of the abdomen, one a week and one 4 years before operation. The majority gave a history of previous good health, the attack of appendicitis coming on without warning. Of these many were of the acute gangrenous type. Discomfort in the right side of the abdomen without any pain was a frequent pre-opertive complaint.

Previous Attack. Fifty-eight patients gave a history of having suffered previous attacks ranging in number from 1 to 10 and varying greatly in character. The average number of previous attacks was 3. The longest time between attacks was 7 years. In a patient in whom an abscess was drained but the appendix not found as it was thought that the organ had sloughed, a typical attack of catarrhal appendicitis developed 7 years later after the subsidence of which the appendix was removed.

Duration of Last Attack. Shortest time was 4 hours, the longest time 2 years, which case was characterized by symptoms of constant pain and tenderness in the right side of the abdomen. Appreciating the great importance of early removal of the appendix in all acute cases it has been our custom to advise the removal of the offending organ in all cases within the first 36 hours. Marked virulence and extremely rapid progress of the gangrenous cases were noted in one instance in which appendectomy with drainage was done 16 hours after the beginning of the attack. A completely gangrenous appendix with an extensive peritonitis was present and the patient died 36 hours later from septicæmia. Perforation in this case had occurred 3 or 4 hours after the onset of the first symptom. The most puzzling cases have been those of the acute suppurative type which were first seen after a progressive course of from 3 to 8 days. Whether to operate upon these cases at the time when first seen or endeavor to tide them over after the plan of Oschner was ever a difficult matter to decide.

Duration of the Disease. Varied from 4 hours to 15 years; more often it was months than years. The duration of the disease was short in the infected cases.

Symptomatology. In over 90 per cent. of the cases herein recorded the symptomatology was characteristic, the symptoms following in the order of their occurrence: pain, nausea or vomiting, local tenderness, fever. There was little variation in this order. Pain as an initial symptom was present in every case, the maximum intensity being reached in from 4 to 6 hours. In about 10% the pain gradually subsided in from 24 hours to 5 days, to be followed by a second attack as severe or more so than the first, with prostration and marked abdominal physical signs. This sig-

nified, in order of pathological progress; infection of the mucous membrane, gangrene of mucous membrane and appendix wall, perforation and peritonitis. The sudden subsidence of pain in the early stages of an attack should be regarded with alarm. Of nausea, vomiting and local tenderness, the latter condition was the most frequently noted. The determination of fever early in the attack could be made approximately, as a large number of the patients were seen late and had no knowledge of the existence of previous elevation of temperature. Murphy states that fever is not absent in a single infective case in the first 36 hours; that he will not operate unless he is confident fever has been present. The acute suppurative cases operated upon had temperatures from 100 to 104 in the early days of the disease. The leucocyte count was made a few times simply to corroborate the diagnosis. Its value in appendicitis has been over-estimated.

The unusual symptoms observed were—intestinal indigestion, diffuse pain in lumbar region and back, diarrhœa, persistent nausea and vomiting, abdominal pain with slight local tenderness and marked headache.

Physical Signs. In the acute cases the physical signs were those of acute peritonitis, localized in the right lower abdominal quadrant but commonly extending into the hypogastric, umbilical or lumbar regions. A tumor or mass was present in a number of cases, especially the children. The apparent or pseudo tumor mentioned by Murphy in the right iliac fossa due to contraction of the muscles and occurring early in the course of the disease was noted in two cases. Fluctuation was not often elicited. Percussion of the rt. iliac region ranged from flat to tympany. Muscle rigidity and local tenderness was never absent. The value of the last two signs can scarcely be over-estimated.

What was thought beforehand to have been a local collection of pus was found frequently to be a fibrinous inflammation of the peritoneum of the appendix and neighboring intestine with agglutination of bowel and omentum, but no fluid. In one case the mass, a small abscess surrounding the appendix tip, was found as low as the internal abdominal ring; in another the mass was in the median line above the bladder. In both instances pressure over the base of the appendix (McBurney's point) elicited great sensitiveness although this point was two or three inches distance from the seat of perforation. Temperature in the well walled off abscesses was often absent but an increased pulse rate was invariably present.

In the chronic cases the physical signs, while not so marked as in the acute variety, were nevertheless fairly uniform. Local tenderness and muscle rigidity, both varying greatly in degree were nearly always present. The presence of gas in the caecum was often noted as was also pain on pressing the base of the appendix against the contracted psoas muscle when the right leg was elevated. The appendix could be felt in 8 or 10 cases. Morris' sign, pain in right iliac fossa when ascending pressure is made over the descending and transverse colon, was in our

experience uncertain and untrustworthy. Many patients were anæmic. A movable right kidney was found near the appendix three times.

Pathological Conditions Encountered. *Macroscopical.*

There were 27 acute gangrenous cases of which 19 had perforated. Pus was present either within the appendix or surrounding the appendix in 15. Fecal concretions were encountered 10 times and grape seeds once, the seeds having been swallowed a year previous. Acute spreading peritonitis was noted in 11 cases and acute diffuse peritonitis in 6; of the latter 5 died. Limiting adhesions were absent in many of this series. There were ten cases which were classified as acute and subacute suppurative although a part of these may have belonged to the previous type. One fecal concretion was present in this class.

Twenty-six cases were of the acute catarrhal type. Three presented fecal concretions, 15 hemorrhagic spots in the mucous membrane, 9 kinks and constrictions; 3 mucous or serum in the lumen; 12 were surrounded by adhesions. In all 26 the serosa was highly injected. The 43 cases falling under the heading of chronic appendicitis presented many pathological conditions. Adhesions 18, displacements 10, chronic ulcerations 8, concretions 7, kinks and constrictions 12. More than one-third of the appendices showed macroscopic changes of fibroid degeneration or obliteration. Many of them presented the scars of previous acute attacks. The retro cæcal position seemed to be common in which case the appendix was often closely adherent to the wall of the gut.

Of the pathological conditions present complicating the inflamed appendix adhesions were the most commonly noted, occurring in about one-third of the cases. Complicating peritonitis was observed in about one-fourth of the acute variety. We have classified peritonitis; first, local with or without abscess; second, spreading, and third, diffuse. The spreading type—encountered 11 times,—was characterized by an intense inflammation of the visceral peritoneum extending as far as could be seen from the limits of the wound. In these cases recovery was the rule after rapid removal of the gangrenous appendix. Diffuse peritonitis, we consider an advance degree of the spreading type. Pus filled the abdomen in three of the five recorded cases. Enlarged, ilio-cæcal glands, pus tubes, intestinal obstruction, ulceration of the bowel and pylephlebitis were among the other complicating pathological lesions.

Associated Pathological Conditions, some of which were unquestionably due to the presence of an inflamed appendix, were diverticulum, retroversion, hypertrophied ovaries, right ovarian cysts, chronic pyosalpinx, and osteitis of 12th rib. One patient operated was 6 or 8 weeks pregnant.

A report of this kind must necessarily included mistakes. So far as we know, four mistaken diagnoses were made, yet at operation the appendix in two of the four cases presented gross pathological lesions. A chronic ulcer of the stomach simulated the symptoms of chronic ap-

pendicitis. The appendix,—slightly bulbous and kinked, was removed but without relief of symptoms. A second operation 2 months later revealed the true pathological condition and a gastroenterostomy was done. There were two instances in which appendectomy was performed,—one for a long fibrous appendix buried in the posterior cæcal wall,—which afterwards were rightly diagnosticated as lesions of the right kidney,—acute and chronic unilateral hæmatogenous infections. An ulceration of the colon was also diagnosticated appendicitis, although the true lesion could not be determined until the abdomen was opened the second time.

There was no mortality among the acute catarrhal and the chronic cases. Of the acute gangrenous cases, six died,—five of general peritonitis with septicacema and one from an extensive cellulitis of the retro colic connective tissue. Four of the deaths occurred in the years 1905 and 1906. With three times as many operated cases in the last two years, the number of deaths has been two, a marked reduction which can be accounted for by insistence on early operation in every acute case. It is a fact that there should seldom be a death from appendicitis, but to attain such an ideal condition early diagnosis and early operative interference is imperative.

The technique of the operation depended somewhat upon the probable situation of the appendix and the pathological condition present. In about two-thirds of the cases the intermuscular or gridiron approach was employed. In 8 of the earlier operations direct incision through the internal oblique and transversalis muscles was practiced in the abscess cases, but this was abandoned in favor of intermuscular separation owing to the development of a post operative hernia. Several times it became necessary to employ Weir's modification of the intermuscular operation in order to secure a wider wound. Incision through the outer border of the right rectus was followed by a ventral hernia in one of the two cases in which it was used. Separation of the fibers of the rectus muscle, however, always gave a strong wound.

Ether was the anæsthetic invariably used. Chloroform alone was employed twice with one death. Chloroform preceding either was used in three cases followed by two deaths. It is the concensus of opinion among surgeons generally that ether is especially indicated in septic cases.

The appendix was removed at the primary operation in all but 10 patients. In one it could not be found. In 90% the appendix stump, after ligation, was buried in the wall of the cæcum. We have never noted an untoward result from this method. Seven patients whose primary operation consisted in laparotomy with drainage for periappendicular abscess, returned for appendectomy and repair of the abdominal wall.

Two cases in the series developed a hernia in the cicatrix. Both had been drained. In one the muscles were incised; in the other the incision was wrongly made at the outer border of the right rectus muscle.

One may never expect a post operative hernia when muscle can be sutured to muscle, provided the wound does not become infected.

The average stay in bed for each patient was 7½ days for the clean cases and 12 days for the ones that were drained. With the employment of the intermuscular operation, patients often sat out of bed on the 4th or 5th day and went home on the 7th.

In conclusion I wish to mention several pathological conditions with associated lesion of the appendix. During the course of operation for these conditions the appendix was examined, found diseased and removed. Four cases of right ovarian cystoma, one right intraligamentous and two right tubal cysts were encountered with associated chronic appendicitis. The relationship between cysts of the right uterine appendages and chronic appendicitis has been mentioned by many authorities. 30% as stated by Oschner. Acute and chronic salpingitis, retroversion, ovarian abscess, fibromyoma, and double intraligamentous cysts were found with a chronic inflamed appendix; as were also several cases of cholecystitis—with or without stones, and one case of hypertrophy of the prostate.

Lodge Practice in Pennsylvania.—Dr. G. D. Thomas, writing from Meadville, Pa., regarding the efforts made by the local physicians to repress lodge practice and contract work, says: "It is surprising how easy it was to convince those physicians engaged in this work that it was wrong in principle, and how readily it was abandoned. Without bitter condemnation, but with friendly reasoning, every doctor in the city signed the resolution agreeing to cease contract practice work for lodges and fraternal societies. The fact that for $2 a physician was expected to treat for a year all members of a family under 18 years of age, be the members two or a dozen, was easily shown to be unfair to the public and an injustice to the profession. The public, with few exceptions, see the matter in the same light, and up to the present, no one has been prevailed on to come from the outside to enter into a contract to do the work abandoned by local physicians."

The essential and distinguishing feature of the objectionable contract practice, as shown in last week's JOURNAL, is the existence of a middleman who buys the physician's services at wholesale and sells them at retail, thus farming out the physician to the public under an agreement whereby the physician gets a pittance and the patient gets poor services, while the middleman alone, who reaps the difference as his profit, is the gainer. If the question can be placed in this, the true light, before both the public and the profession, there is little doubt as to the outcome.—*Jl. Am. Med. Assn.*

MY OPERATION FOR THE EXTIRPATION OF THE LACHRYMAL SAC.*

By C. Barck, M. D., St. Louis.

Synopsis: The incision is made mesially to the insertion of the internal palpebral ligament, directly down to the bone. The lachrymal sac is detached from the bone by curved elevators, and loosened all around by a curved hook. It is then severed at the entrance into the nasal duct. Then it is forcibly drawn down and out, and the excision completed.

The incision commences two mm. above, and just mesially to, the insertion of the internal palpebral ligament, which is an easy landmark. It is, as usually, about 1.5 c.m. long, and slightly curved. It is carried directly through the soft tissues and the periosteum to the bone. By making this incision more mesially than is ordinarily recommended, it can begin at the mentioned high point without injuring the ligament. If made more temporally, it is necessary either to sever the latter or to commence the incision below it. In the first instance disfigurement is likely to follow; in the second, the space is too limited. The incision will strike the slight groove in front of the Crista of the nasal process of the superior maxilla. The hemorrhage, which is frequently encountered now, the greatest during the entire operative procedure, comes from one of the larger blood vessels running down the nose, and can easily be controlled by one or two artery forceps.

As wound retractors, I have tried the different self-retaining specula, and have arrived at the conclusion that the old-fashioned hooks are superior. The self-retaining specula fall out too easily and thereby cause delay. In the absence of sufficient assistance they are, of course, of value; but where there is no want of such, the hooks are preferable. As a rule one only is necessary to draw the temporal wound lip away; the mesial one retracts somewhat spontaneously.

The orientation from now on is not difficult. Just temporally to the incision through the periosteum, is the Crista of the superior maxilla, and immediately beyond this is the fossa lachrymalis, in which the sac is situated.

In order to facilitate the orientation still more, a probe might be introduced through the slitted upper canaliculus and sac into the entrance of the nasal duct, either now, or before the commencement of the operation. This step, valuable for the beginner, is hardly necessary for the experienced operator.

*Read in the Eye, Ear, Nose and Throat Section, Fifty-second Annual Meeting Missouri State Medical Association, Jefferson City, May, 1909.

The dissection of the sac commences with its detachment from the lachrymal bone, the wall of the sac and the periosteum being there one and the same. For this purpose I use two periosteal elevators, a bent one during the first part, and a half curved one later on. Finally I encircle the sac with a curved hook, dividing the tissues without cutting. The instrument I use, is similar to a small strabismus hook, only more curved. After the lower portion of the sac has thus been entirely freed, it is severed with scissors as close to the entrance into the nasal duct as possible.

Then the lower end of the sac is firmly secured with strong forceps and forcibly drawn down and outward. If a probe had been previously introduced, it is now withdrawn. The remaining dissection of the sac, especially of the upper portion, which offers the main difficulty, is rendered very easy by this method. In the former ones, where the cupola was dissected, while the sac was in situ, the work had to be done in the dark. The cutting with the scissors, high up under the internal ligament, was difficult, and we could never be certain, whether the entire sac with its frequent recesses was removed, or whether portions of the mucous membrane were left behind. That in such an instance the suppuration does not cease entirely, is well known. Still more unpleasant was the profuse hemorrhage, which nearly invariably took place during this part of the operation, and with which every operator is familiar. This abundant bleeding was the dreaded feature of the operation. Clamps cannot be used there, and digital compression in the angle of the nose was the only means at our command to control it to a certain extent. It delayed the progress of the work enormously, so that the small operation sometimes occupied nearly an hour. By severing the lower end first, and drawing the sac out of its cavity, the field is always open to view. The cupola of the sac can be excised completely. And on account of the stretching, and because the cutting can be done close to the walls of the sac, the hemorrhage is reduced to a minimum. I have not been impeded by a single one, during twenty operations or more by this method. Therefore this step can be finished in a very brief time, and the length of the entire operative procedure is reduced to one-half or even one-third.

Finally, the nasal duct is curetted as far down as possible. The galvano-caustic destruction of the canaliculi, I have never found necessary.

Three or four stitches will close the wound as a rule. That the cavity should be carefully cleansed, and all hemorrhage checked before closing, is hardly necessary to mention. In order to obtain union by first intention, it is necessary to bring the soft tissues in close contact with the bone and to prevent accumulation of secretion between them. This is done by packing tightly the cavity left. I proceed by placing a small pellet of compressed cotton into the cavity, and while holding it there firmly,

adding successively others, until the entire depression is filled; then a compressive bandage is applied.

Healing by first intention is expected, and is the rule. If there are no untoward symptoms, the bandage is left in situ until the fifth or sixth day, when the stitches are removed.

By this method the extirpation of the lachrymal sac has lost much of its unpleasantness, and may be easily finished in 15 to 20 minutes; the ratio in time being the same as the one between my description and the lengthy one of Meller from the Vienna clinic, with which I suppose you are all familiar. The principle is an old one in surgery; no abdominal surgeon will sever adhesions or vessels of a cyst or tumor inside of the abdominal cavity in the dark, but will first pull it out. It is only astonishing that this principle has not been applied before.

I wish to add, that I have tried local anesthesia for this operation in a number of instances, but that it has proven unsatisfactory. I prefer to employ a general anesthetic.

(The drawings, illustrating the different steps, were taken from the operation on the cadaver.)

DISCUSSION.

Dr. J. S. Lichtenberg, Kansas City, said that Dr. Barck had extremely simplified the operation. He asked whether or not the doctor used adrenalin-cocain-alypin as a local anesthetic and whether he used adrenalin during the operation to control the hemorrhage; also, whether a clamp could be used on the nose to control the hemorrhage. He asked for further information as to the use of cotton pledgets.

Dr. J. H. Thompson, of Kansas City, said, the trouble in removing the sac was chiefly due to the hemorrhage. Local anesthetics in his cases had proved troublesome, and lately he had used a general anesthetic. His method was to open up the canaliculus, introduce a probe into the sac, cut down on that, and then dissect out the sac by blunt dissection. He then clamped it in a hemostat, pulled it down and cut it off. He thought that it was bad to pack the wound. His method was to catch up the spurters and compress.

Dr. Barck, in closing, stated that his paper dealt only with the detail of the operation. The indications thereto were osseous stenosis of the nasal duct, incurable chronic suppuration of the sac, and chronic dacryocystitis when an ocular operation was necessary. Paraffin injections are unnecessary. It is always best to remove the sac in toto; but this is not always possible. Formerly, the hemorrhage made the operation very long, sometimes taking an hour and a half. But if the lower end is cut off first, hemorrhage is always done away with. Adrenalin is useless. He had tried all the local anesthetics but, in his opinion, the operation is too painful. If the sac is completely removed healing by first intention is always obtained. Sometimes a slight epiphora exists which usually disappears later. However, it is sometimes necessary to remove the accessory lachrymal gland later on. The packing is made after the wound is sutured.

SCIENTIFIC EMPLOYMENT OF DRUGS.*

By W. R. Patterson, M. D., Tipton, Mo.

The employment of drugs in the cure and alleviation of disease is a power for good in the hands of properly educated physicians. No one has reason to be ashamed of the progress of medical science. Other branches depend upon the use of drugs and it is the key-stone of the arch upon which medical investigation rests. The triumphs of surgery are made possible by the use of ether, chloroform, cocaine, corrosive sublimate, carbolic acid and other drugs.

This branch has been much abused by over-dosing and lack of scientific use. Our forefathers' work was not without good, although many of the remedies employed by them appear fetishes in the light of our present knowledge. They were handicapped by theories of disease then prevalent and by lack of scientific information. Through their mistakes, their experience and their toil we have profited, and to them we are debtors.

The days of hyper-medication and unscientific employment of drugs set up a reaction that aided in the purification of the therapeutic art and brought great strides of advancement along scientific lines.

The study of pathology and bacteriology and the use of such diagnostic aids as the microscope, have brought about the mutual coöperation of the man at the bedside and the man at the laboratory. A more definite idea of the cause of disease and the recuperative power of nature gives a basis on which has been built a scientific method of employing drugs.

It is not the aim of this paper to decry any scientific method of treatment, but to give this branch the attention it deserves as a science.

The individual who believes that the administration of drugs is a hoax, is without experience, or is wrongly employing them. A large part of the skill consists in fitting the dose to the needs of the individual patient, with a clear conception of what is desired to be accomplished. There should be a thorough knowledge of the therapeutic effect upon the human system of every drug used, its limitation, also its synergistic and incompatible relation to each other ingredient of the mixture. It is better to know but few drugs than not to know them well, and none should be given unless there is a distinct indication for its use.

There are honest differences of opinion as to many therapeutic questions, but that is no plea for ignorance. It would be a great aid to

*Read in the Medical Section, Fifty-second Annual Meeting, Missouri State Medical Association, Jefferson City, May, 1909.

therapeutics if physicians would make a practice of carefully keeping clinical records of the effects of drugs. While there has been so much accomplished, among which is the isolation of the active principles of crude drugs, the physiological standardization and the triumps of bacteriology that brought the use of serum treatment; there still remains much needed work to perform. It is not our aim to dwell on the successes that have been attained so much as to point out some imperfections. Nor do we intend to bring abuse upon the profession, but to perform the duty that each member owes to it,—calling attention to its defects, and aiding in bringing reform. To act otherwise would retard progress. Nor do we seek the reputation of the iconoclast, but we must be consistent, and if ethical, must endeavor to prevent the transgression.

One of the hindrances to the scientific employment of drugs is the miscellaneous use of shotgun prescriptions and the excessive use of "hand-me-down" formulas. Some formulas that are almost impossible to make extemporaneously on short notice, which possess recognized convenience and efficacy are allowable, if from reputable manufacturers who publish full and honest formulas and who sell at a reasonable price. There is nothing inconsistent in specifying a firm name if their preparations are ethical and of superior quality. I do not enter into the hue and cry against the manufacturers while they supply trustworthy products.

A greater hindrance is the use of the semi-secret or proprietary preparation. In the principles of medical ethics, adopted by the American Medical Association, in Section 8 will be found: "It is derogatory to professional character for a physician to dispense or promote the use of a secret medicine, for if such nostrums are of real efficacy any concealment regarding their use is inconsistent with beneficence and professional liberty." Why should any member of the profession endorse such principles and then be willing to play second fiddle to nostrum fakirs, while the manufacturer ignores these principles and waxes fat at the physician's expense. Any patent or copyrighted protection of name encourages the unscientific employment of drugs and hinders unbiased discussion and honest reports. The physician is mislead by fascinating clinical reports coming from paid communications, so notorious at present. Generally these lauded, high-priced specialties are forced upon the innocent public by the physician when he could know what he was prescribing by using a national formulary preparation, which would be as good or even better. Another reason for thus denouncing the use of protected name preparations, is that different firms give different names to similar preparations, and the physician has no inclination to remember all such names, much less to request his pharamacist to keep them in stock. Often the laity learn that a certain doctor has prescribed a certain preparation, which another doctor is not familiar with, and they deem this a lack of information. The profession is being deluded by adept literature, slick-tongued detail men of the manufacturer of proprietaries whose

sole aim is commercialism. It appears that often physicians depend upon some proprietary pamphlet or advertising literature for their knowledge of therapeutics. If such preparations carried a full and true formula, it would be the abolition of proprietoryship.

The council on pharmacy and chemistry organized by the American Medical Association to investigate proprietary medicines, in passing upon them, does not imply their recommendation. It only implies an unbiased judgment of a correctness of the claims of composition. The profession would be benefited if it would join in the propaganda of reform and depend upon the Pharmacopeia, U. S. Dispensatory, National Formulary, and modern works on materia medica.

A learned profession must maintain its self-respect in order to command respect. If it condemns the use of patent medicines among its clientele, it should clean house at home before it should begin to sweep other people's premises. All that have been prescribing preparations with twisted and diluted formulas should no more be guilty of puerile gullibility, but repent and transgress no more.

A more rational study of the physiological action of drugs and its application to disease should be made, and every physician could hasten the progress by clearing his own intellectual atmosphere. He should stand by the principles that bring to the profession honor and make it honorable. The great reform of the scientific employment of drugs has come to stay until the end has been accomplished.

$100,000 for a Tuberculosis Cure. Dr. George W. Bloomer, of Yale University, as spokesman for an anonymous giver, has announced a prize of $100,000, to be awarded to the first person anywhere in the world who discovers a cure for tuberculosis. The gift is unconditional as to time, place or kind of cure; the only real stipulation is that it must have been in constant use for at least five years, and that its promoter shall convince the investigating board of its merits.

Among the physicians invited to act on the board are Dr. E. L. Trudeau of Saranac Lake, N. Y.; Dr. Simon Flexner of the Rockefeller Institute; Dr. William H. Welsh of Johns Hopkins University, Baltimore; Dr. Lawrence F. Flick of Philadelphia, and Dr. Hermann M. Biggs, chief medical officer of the Department of Health, New York. They will use the income from the $100,000 to investigate the cures brought to their notice. To prevent the exploitation of quack remedies, they will reserve the right to analyze all medicines presented.

The donor says that his principal reason for giving the prize is to encourage research for an anti-toxin, serum, or drug that will cure tuberculosis. Physicians have worked for years to perfect or find such a cure but thus far the experiments have not furnished a product which will absolutely cure or prevent consumption, or render the patient immune. Many serums have proved effective in increasing the resistance of the patient and have thus helped in his restoration to health, but no scientist of repute to-day claims to have discovered a tuberculin which will cure without the aid of fresh air, rest and wholesome food.

SURGICAL DYSPEPSIA.*

By Fritz J. Moennighoff, M. D., Kansas City, Mo.

We are gradually learning more and more of the great importance of chronic dyspepsia, indigestion and other forms of maldigestion, in the diagnosis of surgical disease of the alimentary tract and associate organs. Observations upon the living pathology instead of in post mortem room pathology, have taught us that dyspepsia is nearly always a concomitant and important factor in the symptom syndrone of such diseases as chronic appendicitis, gall stone and pancreatic disease, gastric and duodenal ulcers and gastric and intestinal malignancy.

Pure functional dyspepsia is usually an acute trouble, amenable to medicinal treatment, whereas the variety due to organic disease and structural changes in the organ involved is always chronic, though subject to acute exacerbations at intervals. It is this latter variety which mostly concerns the surgical diagnostician. It is the warning signal that some pathological change is gradually and insiduously being implanted upon the normal economy. It is the initiative, or, as Moynihan calls it, the inaugural, symptom of some morbid process somewhere in the alimentary tract or its adjuncts. We must make a careful and complete analysis of every case of unyielding dyspepsia and indigestion. It is only by this means that we can prevent easily curable cases from becoming difficult and dangerous, and even incurable.

Another condition which is chronic and has some symptoms of maldigestion, is pericolitis. This condition has only recently been brought before the surgical world. Many cases of supposed chronic appendicitis have not obtained relief from existing symptoms by operation upon the appendix, because the primary focus of trouble was not in the appendix, but in the ascending colon, where a right-sided, chronic, membranous peritonitis produced the pathological picture.

These sufferers from maldigestion are battered and tossed about in the sea of medical therapeutics, from year to year, until terminal symptoms supervene and the case is then, finally and hesitatingly, brought to the surgeon as a measure of last resort.

How often, then, do we find malignant disease beyond the reach of operative cure; how often then do we find ulcers undergoing cancerous degeneration; how often then do we find gall-bladders shorn of all resemblance to a normal organ, matted and lost in a mass of inflammatory tissue, forming perigastric and pyloric adhesions. All these are merely

*Read in the Surgical Section, Fifty-second Annual Meeting, Missouri State Medical Association, Jefferson City, May, 1909.

matters of statistics. Why not, after you have tried out your armamentarium of drugs in a fair trial and failed, why not, I say, seek the arcanum by exploratory laporatomy.

618 Commerce Building.

DISCUSSION.

Dr. H. E. Pearse, Kansas City: I think the paper is remarkable for its brevity. It covers in its brief pages a great deal that has proven perplexing in my own practice and I am sure in the practice of every one of us. The work which Dr. Jackson, of Kansas City, reported before the Western Surgical Association, and which he will also report before this session, in the treatment of what he calls pericolitis, it seems to me is far short of a solution. The clinical picture is very aptly described by Dr. Meonnighoff. I think there is in these cases an intoxication in the peritoneum from stasis. They often have the symptoms of appendicitis and the diagnosis is very difficult, simulating, as it does, other conditions. If surgical measures are undertaken for the relief of these patients it is only partially successful. I think we have a problem here which should be taken up and worked out by a joint meeting of the medical and surgical sections of this Association. I believe it is largely a medical disease.

"What is Wrong With Our Public Schools." The foregoing is the generic title of an extraordinary series of six special articles, by Joseph M. Rogers, to be published in *Lippincott's Magazine,* beginning with the January issue. Notice that there is no interrogation point after the title. It is not a question. Mr. Rogers is dealing with facts—facts ascertained by him after months of the most arduous and careful research. Says Mr. Rogers:

"There is something wrong with the public schools. More than that, there is something fundamentally wrong with our theories of education. We teach, but we do not educate. We spend a good deal of money and energy to little purpose. It is not necessary to prove these statements. They are admitted by educators, from university presidents to primary teachers; by school administrators, from state and federal officials down to those in the smallest country districts; by parents the country over; while children themselves are, of course, dissatisfied. This series of articles is designed to examine—untechnically—the defects of existing systems, offer some constructive criticism, and make suggestions looking toward improvement. It is hoped through them to arouse among both parents and teachers a deeper interest in the needs of our public schools, to the end that there may be less complaining and more intelligent effort to amend conditions."

Some months ago, Mr. Rogers contributed to *Lippincott's* a series of papers entitled "Educating Our Boys," which attracted wide attention. The new series will make a still stronger appeal, for it deals clearly and succintly with a topic of vital interest to every man, woman and child in the United States. Teachers everywhere and, in fact, everybody who is directly or indirectly interested in the cause of education, will find these articles helpful and enlightening. The first, on "Some Notable Deficiencies," will be found in the January number. Other papers, on "Education Outside of Books," "The Teacher," "Some Reforms Suggested," "The Cost of Improvement," and "A Model School Outlined," will appear in consecutive numbers. It is not too much to say that this is one of the most striking and noteworthy series of articles ever brought out by any magazine.

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EDITORIAL

THE STATE MEDICAL ASSOCIATION AND STATE ELEEMOSYNARY INSTITUTIONS.

The policy which at present dictates the methods of conducting our State eleemosynary institutions will, if we read the signs of the times aright, soon be changed and the spoils system be relegated to the limbo of political discards. The impatience of the people with existing conditions is a necessary step in the achievement of social reforms, and the angry attitude of the people towards the present policy of directing the affairs of our State eleemosynary institutions is sure to result in a change in the system as now practiced.

These institutions should be a source of the highest advantage to the State, for they ought to be centers of study in the diseases encountered there from which study many valuable lessons in their treatment and control could be gained. Before this can be accomplished, however, all State eleemosynary institutions should be lifted out of politics and their management entrusted to men who have knowledge and talent of how to improve their opportunities for studying the conditions they meet with and evolve more effective methods of treatment, for the enlightenment of the medical profession and the instruction of the people.

The control and management of these institutions are matters of serious concern to the State medical organization, for it cannot escape severe criticism when things go awry, and therefore the State Medical

Association should not be ignored when the appointment of medical men to responsible positions in these institutions is about to be made. A civil service commission for the examination of applicants for these positions has demonstrated, in other States, the effectiveness of such a system in securing competent persons, and we have advocated the adoption of this system in Missouri. Until such a system can be established the organized medical profession of the State ought to be consulted as to the fitness of applicants for positions and the candidates be selected from the membership of the State Medical Association after having been recommended and endorsed by that body.

We hope the county societies will take up the consideration of this question and discuss it in their meetings so that at the Hannibal meeting on May 3d the Association can declare its attitude towards existing conditions as they affect the medical control of our State eleemosynary institutions.

THE CONVENTION FOR THE REVISION OF THE PHARMACOPEIA.

The high importance of the Convention for the Revision of the Pharmacopeia, which will convene in Washington May 10, 1910, should impress the members of the State Association with the necessity of acquainting themselves with the definite objects which this Convention will have in view in its work of revising the pharmacopeia. In order to bring the matter before county societies, we publish an editorial from the December 4th issue of the *Journal* American Medical Association, and urge the officers of all county societies to act upon the suggestions offered, so that the medical profession shall in future be more closely identified with the work of revising the pharmacopeia than has been the case in the past. The editorial follows:

"The importance of the next Pharmacopeial Convention should be thoroughly understood by all medical societies and physicians. These conventions, as well as the national Pharmacopeia, originated in a proposition submitted to the Medical Society of the County of New York by Dr. Lyman Spalding in 1817. Dr. Spalding proposed that the United States be divided into four districts—northern, middle, southern and western—and that each district should hold a convention of delegates from the medical societies and schools situated within it, to formulate a pharmacopeia. The four district pharmacopeias were to be taken to a general convention to be held at Washington, composed of delegates

from the four districts. From the district pharmacopeias the delegates were to compile a national pharmacopeia. This plan was adopted, the district convention for New England being held in Boston and the convention for the middle states in Philadelphia, June 1, 1819. No conventions were held in the southern and western districts, but delegates to the national convention were appointed. The first general convention for the formulation of a national pharmacopeia met at Washington, January 1, 1820. The two pharmacopeias prepared in the northern and middle districts were consolidated into one work, which was published in Boston, December, 1820, in both Latin and English. A second edition appeared in 1828.

The convention of 1820 provided for its own perpetuation and for future revisions, by instructing its president to issue notices in 1828 to all incorporated state medical societies and incorporated medical colleges and schools, asking each to vote for three delegates to represent the district at the general convention to be held at Washington in January, 1830, the convention to consist of twelve delegates. The second convention was held at Washington on January, 4, 1830, thirteen delegates being present. It provided for its perpetuation by instructing its president to issue a notice to incorporated state medical societies, incorporated medical colleges and incorporated colleges of physicians and surgeons, asking each to elect three delegates to attend a general convention to be held at Washington in January, 1840. The district plan of representation was given up and has never been resumed.

At the third convention, held in 1840, twenty delegates were present. A committee on revision and publication was appointed which published the second revision of the Pharmacopeia in 1842. This committee was instructed to ask the coöperation of schools of pharmacy in its work.

In the call for the fourth convention of 1850, incorporated colleges of pharmacy were included and were allowed to send three delegates, the same as medical colleges. This convention, which met at Washington in May, 1850, was composed of thirty delegates. Only two pharmaceutical schools were represented, all of the other delegates being from medical colleges and societies.

In 1860 the fifth annual convention was held, thirty delegates being present, four colleges of pharmacy being represented.

The sixth convention was held May 4, 1870, sixty delegates being present, seven pharmaceutical schools being represented. The fifth revision was published in 1873.

The seventh convention met May 5, 1880. One hundred and nine delegates were elected to represent ten medical societies, twenty-three medical colleges, eleven pharmaceutical colleges and the medical depart-

ments of the Army, the Navy and the Marine-Hospital Service. Seventy-five delegates were present.

The eighth convention was held on May 7, 1890, 175 delegates being present, representing fifteen medical societies, twenty-three medical colleges, twenty-five pharmaceutical associations, twenty-three colleges of pharmacy and the medical departments of the three government services. The provisions made for representation in 1900 were the same as those for 1890.

The ninth decennial convention was held at Washington May 2, 1900. Forty-one delegates were present representing twenty-six medical societies, forty-four delegates from thirty medical colleges, fifty-three delegates from twenty-seven pharmaceutical colleges and fifty-seven delegates from twenty-eight pharmaceutical societies, the American Medical Association, the American Pharmaceutical Association and the three government services being represented by twelve members. The total attendance, as shown by the official report, was two hundred and seven, of which one hundred and fourteen were pharmacists and ninety-three were physicians.

The point to be emphasized in the above historical summary is that the convention was originally inaugurated and for many years carried on solely by the medical profession, and that it was not until 1850 that other than medical societies and medical colleges were authorized to send representatives. In that year, pharmaceutical colleges were for the first time given representation. Not until 1890 were pharmaceutical societies added to the list of accredited bodies.

The medical profession during the past thirty years has not given to the revision of the Pharmacopeia the attention which its importance deserves. In spite of the fact that this book originated with the medical profession and was compiled and published primarily for its use, it has come to be regarded too much by physicians as a book which is of interest and value mainly, if not solely, to the pharmacist and in which the physician is not especially concerned. The attitude of the physician toward the Pharmacopeia, as well as the lack of knowledge on this subject has been frequently commented on in THE JOURNAL. It is now time that specific and lasting reforms were effected. Two definite steps should be taken before the meeting of the next convention in Washington: (1) All incorporated state medical associations and medical colleges entitled to representation should select the three best representatives possible and should see to it that they attend and take part. (2) Each county society should devote at least one meeting during the winter to a discussion of the present Pharmacopeia and the formulation of suggestions as to its improvement.

There is, indeed, grave danger lest this work, which was primarily a reflection of the needs of the medical practitioner, should become a purely pharmaceutical rather than a medical compilation. There is also danger of its being controlled by commercial interests. Such a result will be due solely to lack of interest and activity on the part of the medical profession. Active interest in this matter should be aroused and medical societies should see to it that they are properly and effectively represented in the coming convention, and that their delegates are instructed regarding the desires and opinions of those they represent. If every county society will devote one evening to the discussion of this question and will send its recommendations to Dr. Reid Hunt, chairman of the Committee of the American Medical Association on the Pharmacopeia or to the Council on Pharmacy and Chemistry of the American Medical Association, their recommendations will be transmitted to the convention and will receive consideration."

MEDICAL LIBRARY OF THE STATE UNIVERSITY OPEN TO THE MEDICAL PROFESSION.

A policy has been adopted which makes the Medical Library of the University of Missouri a free circulating library, open to the physicians of the State. In accordance with an order passed by the Board of Curators of the University, any reputable physician of the State may borrow books from the medical library for a period of two weeks, which may be extended to four weeks. The only expense to the borrower will be the postage or express charges for transportation. It is hoped that this privilege will be of considerable value, since it will make available to the physician many books and periodicals which he could not otherwise afford.

A brief catalogue of the principal works in the medical library will be published soon and will be mailed free to all interested upon application. A portion of the appropriation available for this library will be devoted exclusively to books desirable for circulation among the practicing physicians of the State. Every physician is therefore urged to send in immediately a list of the books of this character which the library should contain. Those books will be purchased for which the demand is greatest. Communications concerning the medical library may be addressed to Mr. H. O. Severance, Librarian, or to Dr. C. M. Jackson, Dean, University of Missouri, Columbia, Mo.

THE ROSTER.

In this issue we publish the roster of membership. Only those who are in good standing, *i. e.,* who have paid their dues, are included in the list. In order to keep in good standing it is essential that members pay their dues promptly, and every year's dues must be paid. If a member fails to pay his dues in any year he is delinquent and cannot be reinstated to good standing until all back dues are paid. In the meantime he is depriving himself of all the benefits of membership, including legal defense against malpractice suits.

NOTES

POST-GRADUATE CLASS OF THE BOONE COUNTY MEDICAL SOCIETY.

The Boone County Medical Society organized a Post-Graduate Class on October 7, with Dr. C. M. Jackson as chairman, and Dr. A. W. Kampschmidt as secretary-treasurer. The class meets regularly every Thursday evening from 7 to 8 p. m., at the Parker Memorial Hospital in Columbia. The program outlined by Dr. Blackburn is followed as a general guide, modified so as best to adapt it to local conditions. Following each meeting a brief social session is held, consisting of a smoker with simple refreshments, such as apples, sandwiches and coffee. The work has, on the whole, been quite satisfactory, the average attendance being about twelve.

BANQUET FOR DR. McALESTER.

On November 13 a banquet was given in honor of Dr. A. W. McAlester, on the occasion of his retirement from the University of Missouri. He has held the positions of Professor of Surgery and Dean of the Medical Department since 1873. The banquet was held at the Gordon Hotel, in Columbia, and was attended by about fifty members of the faculty and physicians of Columbia. Several speeches were made, including the reading by Dr. J. W. Connaway of a poem composed especially for the occasion. At the close of the exercises, Dr. McAlester was presented with a bound volume of autographic greetings from his former students, many of whom were present.

CORRESPONDENCE

To the officers and members of state medical licensing boards. To the officers of state medical associations. To members of the National Legislative Council. To university presidents, college professors and others interested in medical education and medical legislation:

A special conference on Medical Education and Legislation will be held at the Congress Hotel (formerly the Auditorium Annex), Chicago, Monday, Tuesday and Wednesday, February 28, March 1 and 2, 1910, the session to begin at 10 o'clock Monday morning.

On Monday the Council on Medical Education will hold its Sixth Annual Conference. A report will be presented showing the present status of the medical colleges in the United States and another report giving practical tests in state license examinations. Other important topics bearing on medical education will be discussed.

On Tuesday there will be a Joint Conference on Medical Education and Medical Legislation, at which the essentials of a model medical practice act will be considered.

On Wednesday the Committee on Medical Legislation will hold its Annual Conference, discussing a National Bureau of Health, vital statistics, pure food and drugs, expert testimony, and other live topics.

You are most cordially invited to attend this conference and to participate in the discussions.

COUNCIL ON MEDICAL EDUCATION,
N. P. Colwell, Secretary.

COMMITTEE ON MEDICAL LEGISLATION,
Frederick R. Green, Secretary.

TO THE EDITOR:

The following is an extract from the minutes of the House of Delegates of the American Medical Association, Atlantic City, N. J., June 10, 1909, favoring open meetings of county, district and other local medical societies.

WHEREAS, The American Medical Association, not only as one of its declared purposes, but by numerous lines of activity, many of them connected with the Section on Hygiene and Sanitary Science, stands committed to the education of the public with respect to the nature and prevention of disease; and,

WHEREAS, The demand for such popular education with respect to tuberculosis, cancer, typhoid fever and other decimating diseases has become urgent; therefore, be it

Resolved, That all county, district and other local medical societies be, and they are hereby, requested to hold annually one or more open meetings to which the public shall be invited to attend and participate and

which shall be devoted to a discussion of the nature and prevention of disease and to the general hygienic welfare of the people.

It was moved that the resolution be adopted.

Seconded and carried unanimously.

GEORGE H. SIMMONS,
General Secretary American Medical Association.

To the Auxiliary Legislative Committee of the American Medical Association:

I beg leave to advise you and, through you, the medical profession of your county, that at a meeting of the Committee on Medical Legislation of the American Medical Association, held at Chicago on October 16, I presented my resignation as a member of that Committee to become effective November 15, 1909, or sooner, on the appointment of my successor.

This step has been made necessary on my part, first, because my surgical practice makes it imperative that I decline all engagements that may take me away from my office and operating room, and, second, because the duties of the Committee have grown until they can no longer be discharged by any man who cannot devote, if not all of his time, at least more time to them than is consistent with my obligations to my clientele.

I must, however, ask for the privilege of tendering a few final words before I can accept exemption from further sacrifices incident to relations that I have sustained with pleasurable devotion for the last seven years. During that time, by virtue of its splendid organization, the medical profession has been able to assist in the accomplishment of important reforms. Among these reforms may be mentioned the improved status of the medical profession in the governmental organization of the Isthmian Canal Zone, the reorganization of the Army Medical Corps, the passage of the Pure Food and Drugs Act, the recognition by the government of the heroic services of physicians, the defeat and resulting retirement from office of important personages whose influence was inimical to the welfare of the people along lines represented by the medical profession, the promotion of a sentiment in behalf of state licensure in medicine and the preparation of a model act to that end, the education of the public on questions of medical legislation, the development of a strong public demand for the creation of a broader and stronger national public health service, and, finally, the development of an organization by which the influence of the entire medical profession can be brought to bear on great questions of legislation and public policy.

It is to be remembered, however, that all great reforms have been and must be effected to the embarrassment if not actual injury of unworthy interests that are thereby prompted to efforts at retaliation. Such efforts are in progress at the present time. Unworthy and discredited manufacturers of impure, adulterated and misbranded foods, fraudulent drugs and spurious liquors are to-day conspiring with certain equally unworthy and discredited members of the profession to blacken the character of its honored leaders, and thereby distintegrate its organization. The paid representatives in Congress of selfish and sinister enterprises, the jealously ambitious members of the public services outside of the

medical profession, together with the ignorant and venal pretenders in medicine, are endeavoring to break down the reforms by which they have been adversely affected. In this way the Pure Food and Drugs Act is being insidiously annulled by vicious interpretations that are foreign to the purposes of the people and the Congress in enacting the measure. An effort is being made to resubordinate the medical service in the Isthmian Canal Zone to authority that has no technical qualification for the supervision of its functions. Discredited officials are endeavoring to re-establish their power. Ignorance and superculture, allied under the guise of cults, are endeavoring to break down the medical practice acts of the states. Mercenary and merciless enterprises, antagonistic to the welfare of the people, are conspiring to defeat the movement for a national department of public health.

To overcome these antagonisms, to maintain the reforms already realized, and to accomplish other reforms, the necessities for which are flagrantly apparent in our national life, is to-day the first obligation of the medical profession both to the people and itself. Its natural guardianship of the public welfare cannot be ignored or evaded. It can discharge that duty only by an intelligent *esprit de corps* made effective through the instrumentality of far-reaching, well-disciplined and courageous organization. To this end the officers and committeemen of our national body should be unstintedly supported in their altruistic work; the state associations should be strengthened; but, above all, the county societies, the units of strength and efficiency, should exemplify in the highest degree the principles of complete organization and disciplined coöperation.

After a consensus has been reached on any question in any county, every member should become the teacher of the public on that question in his respective locality. The public intelligence thus enlightened, public conviction may find expression in public action, if need be at the polls. The medical profession must carry weight, not only by the wisdom of its councils, but by its actual power with the people as the natural conservator of their physical welfare and their normal efficiency. In the exercise of its prerogatives, the county medical societies should hold open meetings to which the public are invited and before which questions of profound general concern should be discussed and appropriate action taken. These questions should pertain to every phase of protection against disease-producing influences in water, food, habitation and personal hygiene. The whole agitation, while not disregarding the defense of existing reforms, should, however, be largely concentrated in the immediate future in behalf of action by the Congress to establish an improved national public health service—a measure which, in every form of practical legislation, I am authorized to state has the cordial support of President Taft.

With deepest gratitude that I have been permitted to act as an humble servitor of my profession in carrying out some of these reforms and with assurance that nothing but the inexorable demands of my practice and of my obligations in life could induce me to relinquish the work yet to be done by and through the matchless organization of the American Medical Association, I am

Very sincerely,

Charles A. L. Reed.

60 The Groton, Cincinnati, Ohio, October 26, 1909.

COUNTY SOCIETY NOTES

ADAIR COUNTY MEDICAL SOCIETY.

The Adair County Medical Society met on December 2, 1909. The secretary being absent, Dr. Butler was appointed to act as temporary secretary. The following members were present: Drs. Quinn, Martin, Callison, Butler, Reid, Gashwiler, Grim, Parrish and Grim.

Dr. G. S. Gashwiler, of Novinger, reported concerning cadavers for dissecting purposes. After this report, it was moved and seconded that the society proceed to the election of officers for the ensuing year, the election resulting as follows: Dr. E. S. Quinn, of Kirksville, president; Dr. Janet Reid, of Kirksville, vice-president; Dr. Bert Parrish, of Kirksville, secretary-treasurer; Dr. J. R. Butler, of Kirksville, censor.

After the election of officers, communications from the Physicians' National Board of Regents, concerning registration of nurses, were read, and the secretary was instructed to send a list of the eligible nurses in the county.

Dr. Gashwiler presented some ideas on public health and sanitation, which were well received by all present.

The motion was made and seconded that the president announce at each meeting the place to hold the following meeting. The next meeting of the society will be on the first Thursday in January, at 7 p. m., with Drs. Martin and Parrish.—Bert Parrish, M. D., Secretary.

BOONE COUNTY MEDICAL SOCIETY.

The monthly meeting of the Boone County Medical Society was held at Centralia on December 13th.

Papers were read by Dr. A. R. McComas, of Sturgeon, on "Malignant Endocarditis;" Dr. Woodson Moss, of Columbia, on "Therapeutic Action of Digitalis and Strophanthus," and by Dr. A. W. Kampschmidt, of Columbia, on "Present Status of Serum Therapy."

Officers for the coming year were elected as follows: President, Dr. James Gordon, of Columbia; vice-president, Dr. Robinson, of Sturgeon; secretary, Dr. A. W. Kampschmidt, of Columbia.

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY.

The Cape Girardeau County Medical Society held its regular monthly meeting at Cape Girardeau Monday, December 13, for the election of officers and transaction of any other business that might come up. Ten

members were present. The following officers were elected: President, Dr. G. B. Schultz; vice-president, Dr. Edward Moore; secretary, Dr. E. H. G. Wilson; treasurer, Dr. B. W. Hays; censor, Dr. D. H. Hope; state delegate, Dr. R. F. Wichterich. After reviewing the work of the year which showed that we did not take the interest in our work that we did in years previous, the new chairman suggested a program committee to get together and all work to make 1910 the banner year in our history.—E. H. G. Wilson, M. D., Secretary.

CASS COUNTY MEDICAL SOCIETY.

The Cass County Medical Society met at Harrisonville, December 9th. The president being absent, Dr. M. P. Overholser was called to the chair and presided during the meeting. The program was of special interest, and consisted of the following:

Quiz, "Valvular Lesions; Their Cause, Pathology and Diagnosis."

Paper, "Antibacterial Elements of the Blood Fluids and Therapeutic Immunization," by Dr. M. P. Overholser.

Paper, "Gonorrhea," by Dr. H. Jerard.

These papers were all well prepared, interesting and showed great study and ability in their preparation. The members present took part in a free discussion of each of them.

Drs. S. E. Barnes, of Chaffin; C. J. Dodd and J. U. Scott were elected to membership.

The election of officers for the year 1910 was as follows: President, Dr. J. S. Triplett; vice-president, Dr. M. P. Overholser; secretary-treasurer, Dr. H. S. Crawford; censor, Dr. H. S. Crawford; delegate, Dr. H. S. Crawford; alternate, Dr. H. Jerard.

The society decided to take up the post-graduate course of study, as outlined by Dr. John H. Blackburn, and at the next meeting, in February, will study the "Surgical Diseases of the Thorax," as outlined on page 4 of pamphlets, copies of which have been sent to the members.—H. S. Crawford, M. D., Secretary.

CLINTON COUNTY MEDICAL SOCIETY.

The Clinton County Medical Society held its regular annual business meeting in Plattsburg on December 7, 1909. The following members were present: Drs. Sturgis, Kay, Beers, Risley, Jones, Fulton, Gant, Rea, Steckman, McConkey. Dr. Essig, of Spokane, Wash., was a welcome visitor.

The following program was rendered: Dr. Fulton, "The Society and Ethics;" Dr. Essig, "The Work of the Society;" Dr. McConkey, "What This Society Needs."

The following officers were elected for 1910: Dr. Jno. Sturgis, Perrin, president; Dr. J. A. Franklin, Cameron, vice-president; Dr. C. M. McConkey, Lathrap, secretary-treasurer; Dr. C. H. Risley, Cameron, censor. The next meeting will be held in Cameron on January 4, 1910.—C. M. McConkey, M. D., Secretary.

GREENE COUNTY MEDICAL SOCIETY.

The Greene County Medical Society has held sixteen regular meetings and three special meetings during the year. In addition to its scientific program before the society there has been done a large amount of work along anti-tuberculosis and public sanitation lines. Dr. Tinsley Brown, President of the Missouri State Medical Association, and Dr. N. P. Wood, of Independence, Mo., have delivered public addresses on public health and on the tuberculosis question.

The special committee appointed to investigate the city water supply of Springfield, the members of which were Dr. Fortner, Dr. Farnsworth and Dr. Woody, have made a very thorough investigation of the situation and their recommendations for improvement have been adopted by the water company. The society meetings have been well attended and much interest taken by the members both in the regular and special work. —J. E. Dewey, M. D., Secretary.

HOWARD COUNTY MEDICAL SOCIETY.

The Howard County Medical Society met in regular session on December 14th, and elected the following officers for the ensuing year: President, Dr. W. B. Kitchen, Glasgow; first vice-president, Dr. T. C. Richards, Fayette; second vice-president, Dr. J. Y. Hume, Armstrong; secretary-treasurer, Dr. C. W. Watts, Fayette; censors, Drs. C. O. Lewis, V. Q. Bonham and A. W. Moore, of Fayette; delegate to the Missouri State Medical Association, Dr. J. Y. Hume, of Armstrong. Dr. W. Scott Thompson, of Armstrong, was chosen to act with the State Board of Health, and Dr. H. K. Givens, of Fayette, was appointed to assist in the enforcement of the Pure Food and Drug Law.—C. W. Watts, M. D., Secretary.

MONITEAU COUNTY MEDICAL SOCIETY.

The Moniteau County Medical Society met in regular quarterly session at Tipton, December 9th. The following members were present: Drs. J. H. Lang, J. B. Norman, J. P. Burke, H. C. Freudenberger, J. Robertson, W. R. Patterson, P. E. Williams and H. S. Marsh.

The scientific program consisted of a paper by Dr. H. S. Marsh, entitled, "The Diagnosis of Cardiac Lesions," and one by Dr. H. C. Freudenberger, entitled, "The Relation of the Family Physician to the Tuberculous Patient." Each of these papers brought out spirited and thoughtful discussion, which was engaged in by all doctors present.

Dr. Patterson had prepared a paper on "Medical Organization," which was not read because of lack of time to hear the paper.

This was the time for election of officers, and upon ballot the following were elected for the coming year: President, Dr. J. H. Lang; vice-president, Dr. H. S. Marsh; secretary and delegate, Dr. H. C.

Freudenberger; alternate, Dr. W. R. Patterson; treasurer, Dr. H. C. Klueber; censor, Dr. J. B. Stewart.

Moniteau County Medical Society is in the most prosperous condition it has been for many years, and all eligible physicians in the county are members.

The next meeting will be held in Tipton on the second Thursday of March, 1910.—H. C. Freudenberger, M. D., Secretary.

STE. GENEVIEVE COUNTY MEDICAL SOCIETY.

The Ste. Genevieve County Medical Society held its annual meeting, Wednesday, December 8, 1909. Members present: Drs. Wilkins, Hertich, Kerlagon, Hinch and Lanning.

The application for membership of Dr. P. I. Aubuchon, of Bloomsdale, was read and tabled until next meeting, as per by-laws.

The written report of the society's successful prosecution of two so-called Weltner graduates, was made by Mr. C. J. Stanton, attorney for the society, as follows: During May, 1909, prosecution was begun against both, "by three informations charging offenses in three counts in each information; to-wit: 1. Practicing medicine without certificate from State Board of Health. 2. Attempting to treat and treating, the sick and others afflicted with bodily and mental infirmities, without certificate from State Board of Health. 3. Advertising themselves as being authorized to treat the sick and others, etc., without certificate from State Board of Health." In the Circuit Court at the recent October term, 1909, information No. 253, in which we were defendant, and No. 256, in which the other was defendant, were taken up by the court and disposed of as follows: "Trial by court upon agreed statement of facts. Finding of guilty on second and third counts. State dismissed as to third count and consents to judgment on second count only."

"Fine on second count assessed at $50.00. Judgment accordingly. Defendants paroled and conditioned on payment of costs."

The parole was granted at the request of our attorney and to hold good until either of defendants attempts again to violate the law as charged, in which event an execution will be "issued for the fine in each case assessed as hereinabove set out." "And, cases No. 254 and 255 are still pending, and will be diligently prosecuted should it be deemed necessary in the future."

Election of officers resulted in old officers being retained, viz.: Dr. F. E. Hinch, president; Dr. J. A. Wilkins, vice-president, and Dr. R. W. Lanning, secretary-treasurer; Dr. J. A. Wilkins, delegate; board censors, Drs. Kerlagon, Hertich and Lanning. Committee on Public Health and Legislation, Drs. Wilkins, Rutledge and Lanning.—R. W. Lanning, M. D., Secretary.

ST. JOSEPH-BUCHANAN COUNTY MEDICAL SOCIETY.

MEETING OF DECEMBER 8, 1909.

On account of the annual election of officers the third section of the Post-Graduate Course was postponed until the next meeting.

Dr. J. H. McCoy, chairman of the banquet committee, reported that the committee had arranged for the annual dinner at the Hotel Metropole, on the evening of December 18, to cost $3.00 per plate, explaining that the committee was unable to arrange for a satisfactory banquet at a less price. Upon motion the report of the banquet committee was accepted and its action ratified.

Dr. Gebhart reported that the tuberculosis committee had received its supply of Red Cross stamps, which are being placed on sale at all the drug stores and clubs. The matter of placing a pamphlet in the hands of the school children was still under consideration.

The secretary offered, as a suggestion, that the society hold weekly meetings after the first of the year, and continue the post-graduate work at three of the meetings, the remaining session to be a business meeting. Dr. Jacob Geiger reported that the trustees at the Ensworth Medical College had donated the use of the lower lecture room without charge for the coming year, and that weekly meetings would be held in this institution. Upon motion of Dr. Reynolds the offer was accepted to take effect in January.

The next order of business was the election of officers. Dr. Gebhart and Ballard were appointed tellers to collect the ballots. The election resulted as follows: President, Dr. C. R. Woodson; first vice-president, Dr. F. A. Ladd; second vice-president, Dr. L. S. Long; secretary, Dr. C. W. Fassett; treasurer, Dr. J. M. Bell; censor, Dr. O. B. Campbell; delegate, Dr. A. B. McGlothlan; alternate, Dr. H. S. Forgrave.—Chas. Wood Fassett, M. D., Secretary.

BOOK REVIEWS

Thornton's Pocket Medical Formulary. New (9th) edition. Containing about 2,000 prescriptions, with indications for their use. In one leather-bound volume. Price, $1.50 net. Lea & Febiger, Publishers, Philadelphia and New York, 1909.

A convenient book with the diseases arranged alphabetically for ready reference, including indications and annotations for a choice of the various formulæ, according to the condition to be met.

Clinical Treatises on the Symptomatology and Diagnosis of Disorders of Respiration and Circulation. By Prof. Edmund von Neusser, M. D. Authorized English Translation, by Andrew McFarlane, M. D. Part III., Angina Pectoris. New York: E. B. Treat & Co. 1909. Price, $1.00.

Drawing from his vast fund of clinical experience Prof. von Neusser is able to illustrate his views by means of a wealth of interesting cases, most of them drawn from the second medical clinic of Vienna, of which he is chief. The etiology, pathology, symptomatology, diagnosis, etc., are discussed in great detail but, of the 71 pages, a scant 2 are devoted to treatment. And indeed in the face of true angina pectoris we

are well-nigh helpless. A hope for the eventual production of a real causal therapy for this disease lies, he believes, in the future discovery of an antibody for the product of the adrenals, perhaps by means of the subcutaneous implantation of fragments of adrenal tissue.

Clinical Diagnosis and Treatment of Disorders of the Bladder, with Technique of Cystoscopy. By Follen Cabot, M. D., Professor of Genito-Urinary Diseases, Post-Graduate Medical School, New York, etc. Illustrated. New York: E. B. Treat & Co. 1909. Price, $2.00, prepaid.

The author's extensive experience in the treatment of disorders of the bladder is alone sufficient to attract attention to this volume and assure the reader that he will find, though in compact form, all necessary information in order to know the latest views in regard to these affections. All the various methods of diagnosis, including cystoscopy, and all the forms of treatment which have proved successful in personal experience, are described.

The Ophthalmic Year Book. Volume VI. Edited by Edward Jackson, A. M., M. D., Professor of Ophthalmology, University of Colorado; George E. DeSchweinitz, Professor of Ophthalmology, University of Pennsylvania, and Theodore B. Schneideman, Professor of Ophthalmology, Philadelphia Polyclinic. Published by the Herrick Book and Stationery Co., Denver, Colo. 1909.

Like its predecessors this volume contains a careful and complete digest of the literature of ophthalmology with an index of all the publications of the year 1908.

Progressive Medicine, Vol. IV., December, 1909. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, 334 pages, with 35 engravings and a colored plate. Per annum, in four paper-bound volumes, containing over 1,200 pages, $6.00, net; in cloth, $9.00, net. Lea & Febiger, Publishers, Philadelphia and New York.

This volume of Progressive Medicine contains 334 pages. The contents, as is usual with this excellent periodical, comprises articles upon various subjects which are contributed by men who have had much experience in their respective specialties. Volume IV. contains chapters on Diseases of the Digestive Tract and Allied Organs, the Liver and Pancreas, by David L. Edsall, M. D.; Diseases of the Kidneys, by John Rose Bradford, M. D., F. R. C. P., F. R. S.; Surgery of the Extremities, Tumors, Surgery of Joints, Shock, Anesthesia, and Infections, by Joseph C. Bloodgood, M. D.; Genito-Urinary Diseases, by William T. Belfield, M. D.; Practical Therapeutic Referendum, by H. R. M. Landis, M. D.

Medical Sociology. A Series of Observations touching upon the Sociology of Health and the Relation of Medicine to Society. By James Peter Warbasse, M. D., Surgeon to the German Hospital, etc., New York. D. Appleton & Company, New York and London. 1909.

The author of this interesting book in its preface expresses the hope that it may help to break down the barriers between the physician and

the public, and interest the latter in the work of the former, and the former in the needs of the latter. It is hoped that these observations on the sociologic relations of medicine will help laymen, students of sociology, teachers and parents, to a better understanding of the meaning of medicine and its power to save; and that for the medical reader they may furnish some entertainment and instruction and strengthen his love for his profession.

The Physician's Pocket Account Book. By J. J. Taylor, M. D. Bound in full leather, 24 pages of practical instructions for physicians, 216 pages of accounts. Price $1 per copy; published by The Medical Council, 4105 Walnut street, Philadelphia, Pa.

This book is without a doubt the most complete and at the same time simple and thoroughly efficient account book that has ever been devised. Furthermore, it is absolutely legal and can be presented in any court of justice. It contains 24 pages of business instructions for physicians, which have been found very useful and correct in a long and varied practice, under the headings of "Importance of a due bill," "Fees," "Billing and collecting," "Cautions," "Statute of limitations," "Form for wills," "Dying declarations," "Saving and investing," "Instant treatment of poisoning," etc. Also an average Fee Bill which has been found to work out correctly in practice. The price of this book is only $1. Sample pages will be sent free upon request.

A Text-Book of Surgical Diagnosis. For Students and Practitioners. By Edward Martin, M. D., Professor of Clinical Surgery, University of Pennsylvania, Philadelphia. Very handsome octavo of 764 pages, with 445 engravings, largely original, and 18 full-page plates. Cloth, $5.50, net; Lea & Febiger, Philadelphia and New York.

This new work takes as its keynote the axiom that the simplicity and safety of surgical intervention are as a rule proportionate to timeliness in diagnosis. Another feature of the work is the recognition of the fact that as it is the general practitioner who usually sees a case first, he has both the opportunity and responsibility of determining when surgical treatment is required, and he should be qualified therefore. Though providing thus for what may be termed the man in the middle, Dr. Martin has written also for the men at the two extremes of the line, namely, the student and the practicing surgeon. Thus his work is one of great comprehensiveness. The illustrations are mostly original and are designed to emphasize the points of diagnostic importance. This holds true especially for a separate chapter devoted to the proper interpretation of *x*-ray pictures.

Organic and Functional Nervous Diseases. A Text-Book of Neurology. By M. Allen Starr, M. D., Ph. D., LL.D., Sc. D., Professor of Neurology, College of Physicians and Surgeons, New York; ex-President of the New York Neurological Society. Third edition, thoroughly revised. Octavo, 904 pages, with 300 engravings and 29 plates in colors or monochrome. Cloth, $6.00, net; leather, $7.00, net. Lea & Febiger, Philadelphia and New York, 1909.

In planning this new edition, the author has adapted the matter still more closely to the requirements both of students and practitioners. He has completely rearranged as well as thoroughly revised the work. The

trend of the entire work is distinctly practical, embodying as it does the knowledge gained by twenty-seven years devoted to this specialty. It covers all aspects, both medical and surgical, and the possessor of the work may feel assured that he has at hand the latest and most authoritative information in shape for application. It is elaborately illustrated.

A Text-Book on the Principles and Practice of Surgery. By George Emerson Brewer, M. D., Professor of Clinical Surgery in the College of Physicians and Surgeons, New York. Octavo, 908 pages, 415 engravings and 14 full-page plates; cloth, $5.00, net; leather, $6.00, net. Lea & Febiger, Philadelphia and New York, 1909.

To present a well proportioned exposition of modern surgery in a volume of less than a thousand pages requires that author combine broad knowledge, good judgment in determining what is really important, and a concise way of stating it. Both as a skilful surgeon and as a teacher in one of the leading colleges, Brewer knows his subject and how to present it. He frankly states that his first edition was uneven and not sufficiently complete, a fault readily corrected after having the entire book in print before him, instead of the manuscript only, as at first. The author has incorporated new matter to the extent of two hundred pages, and has correspondingly enriched the engravings and colored plates. It is interesting to note that the new process of color-photography direct from nature has been here employed for the first time in medical literature.

Systemic (Including Special) Pathology. By J. George Adami, M. D., and Albert G. Nicholls, M. A., M. D., F. R. S., Assistant Professor of Pathology in McGill University. In one octavo volume of 1082 pages, with 310 engravings and 15 colored plates. Cloth, $6.00, net. Lea & Febiger, Philadelphia and New York, 1909.

With his volume on general pathology, Professor Adami effectually disposed of the old opprobrium that English-speaking races borrowed or adapted their works on the subject from the Germans. The plan and execution of that volume were highly original, and established even more firmly, if possible, the author's reputation as the peer of any pathologist in the world. The immediate and widespread welcome extended to the book showed both the need for it and the highly developed intelligence of the profession in America.

The volume on general pathology explains the features common to all diseases, and so enables the authors of the completing volume on systemic or special pathology to cover in convenient compass the entire field of the individual diseases. The same easy and charming literary style, and the same tracing of cause and effect, give the reader the reasoning in a way he will not forget, and endow him with a mastery of his profession that will render him a better practitioner, no matter what his previous attainments may have been. The reputation already won by the first volume will render every reader anxious to possess its companion, and will set American medicine on an even higher plane, both of science and practice.

A Text-Book of Protozoölogy. By Gary N. Calkins, Ph. D., Professor of Protozoölogy in Columbia University, New York. Octavo, 349 pages, with 125 engravings and 4 colored plates. Cloth, $3.25, net. Lea & Febiger, Philadelphia and New York, 1909.

Protozoölogy has hitherto been relatively neglected, owing to the difficulty of cultivating the protozoa in artificial media. Recent methods having largely overcome this obstacle, it is to be expected that the amazing and fruitful growth exhibited in the study of the bacteria during the past two decades will be paralleled in the case of the protozoa, but in much less time. The rôle of certain of these animal germs as causes of disease is well established, and with it their importance in pathology, but they have also a useful purpose to serve in teaching biology and physiology, as they exhibit in the simplest form the manifold processes of the living organism, assimilation, respiration, excretion, irritability and fatigue, reproduction, fertilization and inheritance. In this compact work an authority of the first rank has prepared a text-book on the protozoa from a very broad point of view, so that it will serve students of biology and medicine, and answer the requirements of physicians as well.

Modern Medicine. Its Theory and Practice. In Original Contributions by American and Foreign Authors. Edited by William Osler, M. D., Regius Professor of Medicine in Oxford University, England; formerly Professor of Medicine in Johns Hopkins University, Baltimore; in the University of Pennsylvania, Philadelphia, and in McGill University, Montreal. Assisted by Thomas McCrea, M. D., Associate Professor of Medicine and Clinical Therapeutics in Johns Hopkins University, Baltimore. In seven octavo volumes of about 900 pages each, illustrated. Volume VI., Diseases of the Urinary System, of the Ductless Glands, of the Muscles, Diseases of Obscure Causation, Vasomotor and Trophic Disorders, Medical Aspects of Life Insurance. Just ready. Price per volume: cloth, $6.00 net; leather, $7.00 net; half morocco, $7.50 net. Lea & Febiger, Publishers, Philadelphia and New York, 1909.

The sixth volume of Osler's Modern Medicine, just off press, covers a very wide and important range of subjects, namely, the diseases of the urinary system, of the ductless glands, of the muscles, those of obscure causation, vasomotor and trophic disorders, and the medical aspects of life insurance. These diseases are all handled by specially competent men. John McCrae, of Toronto, begins the volume with two chapters on the kidney, followed by two on urinary anomalies and uræmia by Garrod, of London. Herrick, of Chicago, deals with all aspects of nephritis, as well as amyloid disease, and Thomas R. Brown, of Baltimore, considers pyogenic and tubercular affections of the kidney. Its medico-surgical aspects, from the pen of H. H. Young, of Baltimore, conclude this section. George Dock, formerly of Ann Arbor, and now of New Orleans, has written the entire section on the ductless glands. Longcope, of Philadelphia, considers Hodgkin's Disease; T. McCrae, of Baltimore, arthritis deformans; Dock, of New Orleans, osteomalacia; and D. J. McCarthy, of Philadelphia, astasia-abasia and adiposis dolorosa. Together with W. R. Steiner, of Hartford, McCarthy has written the section on muscular diseases. The editor, Dr. Osler, with his former colleague, C. P. Emerson, of Baltimore, handles the section on vasomotor and trophic disorders, and Charles Lyman Greene, of St. Paul, concludes with the medical aspects of life insurance.

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Johnston, Alexander, Grandin, Mo.

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CHARITON COUNTY.

Austin, M. B., Brunswick, Mo.
Baker, J. H. P., Salisbury, Mo.
Banning, T. J., Salisbury, Mo.
Billeter, W. J., Bynumville, Mo.
Brummall, J. D., Salisbury, Mo.
Buck, S. B., Triplett, Mo.
Conard, J. W., Sumner, Mo.
Edwards, G. W., Brunswick, Mo.
Epperly, R. G., Prairie Hill, Mo.
Gaines, J. R., Mussell Fork, Mo.
Hardy, John W., Sumner, Mo.
Hawkerson, W. O., Roanoke, Mo.
Hawkins, G. W., Salisbury, Mo.
Hughes, B., Keytesville, Mo.
Jennings, C. A., Salisbury, Mo.
Kirkpatrick, H. E., Dalton, Mo.
Knott, Isaiah, Keytesville, Mo.
Lawhorn, G. W., Forest Green, Mo.
Lewis, A. L., Sumner, Mo.
McAdams, J. D., Prairie Hill, Mo.
McEuen, Oliver, Hemingford, Nebraska.
Morey, Otis T., Salisbury, Mo.
Tatum, Harry, Brunswick, Mo.
Temple, C. H., Glasgow, Mo.
Wallace, J. S., Brunswick, Mo.
Welch, J. Franklin, Salisbury, Mo.
West, W. D., Mendon, Mo.
Zilman, A. W., Indian Grove, Mo.

CHRISTIAN COUNTY.

Brown, F. H., Billings, Mo.
Bruton, J. W., Ozark, Mo.
Farthing, R. R., Sparta, Mo.
Nagel, P. E., Billings, Mo.
Robertson, J. A., Ozark, Mo.
Smith, W. L., Springfield, Mo.
Vandeventer, D. O., Garrison, Mo.
Wasson, W. B., Nixa, Mo.
Young, J. C., Ozark, Mo.

CLARK COUNTY.

Bridges, A. C., Kahoka, Mo.
Bridges, J. R., Kahoka, Mo.
Hiller, F. B., Jefferson City, Mo.
Martin, W. H., Kahoka, Mo.
Sisson, W. B., Kahoka, Mo.
Teel, A. W., Kahoka, Mo.

CLAY COUNTY.

Allen, J. M., Liberty, Mo.
Alton, G. P., Gashland, Mo.
Ashley, M. A., Excelsior Springs, Mo.
Bogart, T. N., Excelsior Springs, Mo.
Diemer, F. E., Liberty, Mo.
Gaines, J. J., Excelsior Springs, Mo.
Goodson, W. H., Liberty, Mo.
Hill, E. C., Smithville, Mo.
Jones, H. S., Linden, Mo.
Lightfoot, Frank, Excelsior Springs, Mo.
Lowrey, E., Excelsior Springs, Mo.
Maltby, Burt, Liberty, Mo.
Matthews, F. H., Liberty, Mo.
Miller, E. H., Liberty, Mo.
Ralph, A. B., Orrick, Mo.
Rice, J. J., Kearney, Mo.
Rice, J. T., Excelsior Springs, Mo.
Rothwell, J. H., Liberty, Mo.
Rowell, H., Kearney, Mo.
Sevier, R. E., Liberty, Mo.
Suddarth, C. H., Smithville, Mo.
Wallace, W. S., Excelsior Springs, Mo.
Ward, T. J., Birmingham, Mo.
Woods, R. J., Smithville, Mo.
Wysong, W. L., Missouri City, Mo.

CLINTON COUNTY.

Franklin, J. A., Cameron, Mo.
Fulton, Frank, Plattsburg, Mo.
Gant, J. O. K., Plattsburg, Mo.
Gilleland, O. A., Cameron, Mo.
Kay, John, Perrin, Mo.
McConkey, C. M., Lathrop, Mo.
Mitchell, A. R., Mecca, Mo.
Peters, M. L., Cameron, Mo.
Porter, Wood K., Turney, Mo.
Rea, R. W., Plattsburg, Mo.
Rush, G. B., Lathrop, Mo.
Steckman, P. M., Plattsburg, Mo.
Sturgis, John, Perrin, Mo.

COLE COUNTY.

Aldridge, M. R., Jefferson City, Mo.
Bedford, S. V., Jefferson City, Mo.
Biesmeyer, L. F., Westphalia, Mo.
Bowles, S. A., Westphalia, Mo.
Chastain, C. W., Plattsburg, Mo.
Clark, A. W., Jefferson City, Mo.
Enloe, C. F., Jefferson City, Mo.
Ettmueller, Gustav, Jefferson City, Mo.
Hamlin, C. W., Bass, Mo.
Hill, J. S., Jefferson City, Mo.
Hiller, Frank B., Jefferson City, Mo.
Hough, C. P., Jefferson City, Mo.
Jones, J. F., Linn, Mo.
Leach, N. T., Elsten, Mo.
Leslie, Walter H., Russellville, Mo.
McDonald, Jefferson City, Mo.
Porth, J. P., Jefferson City, Mo.
Sneed, C. M., Jefferson City, Mo.
Son, E. R., Osage City, Mo.
Summers, J. S., Jefferson City, Mo.
Thorpe, J. L., Jefferson City, Mo.
Waterman, J. A., Jefferson City, Mo.

COOPER COUNTY.

Barnes, H. T., Pilot Grove, Mo.
Barnes, W. S., Pilot Grove, Mo.
Cordry, H. V., Boonville, Mo.

Elliott, W. H., Bunceton, Mo.
Evans, R. L., Boonville, Mo.
Fogle, R. L., Otterville, Mo.
Lionberger, J. R., Boonville, Mo.
Meredith, A. L., Wooldridge, Mo.
Monroe, A. E., Otterville, Mo.
Parrish, J. S., Pleasant Green, Mo.
Pendleton, Thomas O., Pilot Grove, Mo.
Quigg, H. D., Blackwater, Mo.
Rice, E. L., Otterville, Mo.
Smiley, F. R., Boonville, Mo.
Teel, S. M., Prairie Home, Mo.
Van Ravenswaay, C. H., Boonville, Mo.

DAVIESS COUNTY.

Brosius, W. L., Gallatin, Mo.
Clagett, O. F., Jamesport, Mo.
Cox, John L., Winston, Mo.
Doolin, L. R., Gallatin, Mo.
Dunham, J. D., Pattonsburg, Mo.
Hanna, D. F., Gallatin, Mo.
Jarrett, S. S., Pattonsburg, Mo.
Martin, C. P., Jamison, Mo.
Miller, R. R., Lock Springs, Mo.
Minnick, A. G., Lock Springs, Mo.
Smith, M. A., Gallatin, Mo.
Songer, H. E., Jamesport, Mo.
Waller, C. E., Altamont, Mo.
Wetzel, N. M., Jamison, Mo.

DE KALB COUNTY.

Clark, W. J., Maysville, Mo.
Crowson, Egbert, Stewartsville, Mo.
Evans, R. A., Amity, Mo.
Gale, W. S., Osborn, Mo.
Guinn, J. C., Clarksdale, Mo.
Reynolds, E. M., Union Star, Mo.
Saunders, L. E., Stewartsville, Mo.
Varner, A. O., Union Star, Mo.

DENT COUNTY.

Calhoun, D. S., Sligo, Mo.
Conoway, R. H., Mounce, Mo.
Craig, L. B., Salem, Mo.
Duncan, E. A., Salem, Mo.
Gordon, J. R., Bunker, Mo.
Lenox, W. M., Hobson, Mo.
McMurtrey, A. T., Salem, Mo.
Rudd, W. E., Salem, Mo.
Welch, J. C., Salem, Mo.

DUNKLIN COUNTY.

Baldwin, Paul, Kennett, Mo.
Beal, W. E., Malden, Mo.
Bond, V. H., Cotton Plant, Mo.
Chaney, J., Senath, Mo.
Drace, J. J., Kennett, Mo.
Ellis, B. L., Senath, Mo.
Finney, W. B., Kennett, Mo.
Hogue, J. A., Holcomb, Mo.
Hughes, W. G., Senath, Mo.
Rigden, T. J., Kennett, Mo.
Sharpe, J. B., Senath, Mo.
Sturgis, W. E., Kennett, Mo.

FRANKLIN COUNTY.

Au Buchon, Phillip L., Grubville, Mo.
Booth, H. A., Pacific, Mo.
Briegleb, Charles, St. Clair, Mo.
Brown, A. C., Moselle, Mo.
Dunigan, James P., Sullivan, Mo.
Eimbeck, A. F., New Haven, Mo.
Eimbeck, W. F., New Haven, Mo.
Fitzgerald, W. P., Gerald, Mo.
Hempker, W. H., Catawissa, Mo.
Hume, E. L., Bourbon, Mo.
Isbell, John, Washington, Mo.
Kitchell, W. E., St. Clair, Mo.
Lane, A., Sullivan, Mo.
McNay, A. L., Pacific, Mo.
Mankopf, B. E. New Haven, Mo.
Mattox, W. P., Sullivan, Mo.
May, H. A., Washington, Mo.
Owens, I. M., Beaufort, Mo.
Poppenhusen, H. A. C., Washington, Mo.
Reeves, George W., Japan, Mo.
Rusk, Earle McD., Villa Ridge, Mo.
Rusk, John A., Gray's Summit, Mo.
Smith, August A., Pacific, Mo.
Stierberger, E. A., Union, Mo.
Williams, Dave E., Pacific, Mo.

GASCONADE-MARIES-OSAGE COUNTY

Auf der Heide, Frederick, Drake, Mo.
Buechler, J. L. A., Freesburg, Mo.
Burgess, J. W., Belle, Mo.
Byler, W. F., Eldon, Mo.
Engelbrecht, John, Stonyhill, Mo.
Ferrell, John J., Owensville, Mo.
Ferrell, Wm. Rhodes, Bland, Mo.
Leach, Charles T., Feursville, Mo.
Radmacher, J. J., Meta, Mo.
Rickhoff, A. H., Chamois, Mo.
Seba, John D., Bland, Mo.
Seba, William Ezra, Leedey, Okla.
Spurgeon, Marion E., Red Bird, Mo.

GENTRY COUNTY.

Barger, J. N., Albany, Mo.
Brooks, W. W., Stanberry, Mo.
Crockett, J. A., Stanberry, Mo.
Landis, H. B., King City, Mo.
Lindley, E. R., Stanberry, Mo.
Martin, W. T., Albany, Mo.
Paulett, A. W., King City, Mo.
Whiteley, G. W., Albany, Mo.
Williams, C. M., Gentry, Mo.

GREENE COUNTY.

(All addresses Springfield, Mo., unless otherwise stated.)
Armstrong, A., Campbell St.
Barnes, G. W, Commercial St.
Bartlett, J. R., Commercial St.
Beers, E. G., Trimble, Mo.
Boyd, J. R., Merchants Nat. Bank Bldg.
Camp, W. A., Boonville St.
Carter, O. N., Republic, Mo.
Clark, J. W., Bois d'Arc, Mo.
Coffelt, T. A., Baker Bldg.
Cowen, H. K., Ash Grove, Mo.
Cox, Lee, South St.
Crane, T. V. B., Hinton Bldg.
Dewey, J. E., 406 Baker Bldg.
Doolin, T., Ash Grove, Mo.
Dorrell, G. B., Republic, Mo.
Elkins, C. B., East Side Square.
Evans, E. L., Hinton Bldg.
Farnsworth, D. B., South Walnut St.
Fortner, B. F., Hinton Bldg.
Fulbright, J. H., South St.
Fulton, C. E., Hinton Bldg.
Fuson, F. B., Hinton Bldg.
Hankins, C. C., Baker Bldg.
Hill, H. S., Commercial St.
Hogeboom, R. W., Frisco Hospital.
Kerr, U. F., Fink's Pharmacy.
Klingner, Thomas O., Commercial St.
Knabb, Enoch, Commercial St.
Lemmon, G. B., Hinton Bldg.
Matthews, J. C., South St.
Mayfield, M. H., Commercial St.
Miller, T. C., Ash Grove, Mo.
Moore, C. A., South Side Square.
Neff, J. B., Hinton Bldg.
Nixon, J. H., Colonial Hotel.
Oldham, J. D., South St.

Ormsbee, J. L., 1862 N. Blvd.
Patterson, W. P., Over Dalrymple Drug Co.
Peak, O. L., Commercial St.
Pipkin, R. L., South St.
Pursselley, W. L., Campbell St.
Ralston, J. P., East Side Square.
Rienhoff, William, Baker Bldg.
Ross, F. E., Fink's Pharmacy.
Ruyle, H. J., Baker Block.
Sherman, D. U., Over Dalrymple Drug Co.
Smith, Wm. M., Commercial St.
Standard, D. E., Commercial St.
Tefft, J. E., East Side Square.
Terry, N. F., Merchants Nat. Bank Bldg.
Tickle, S. W., Commercial St.
Tucker, C. A., Commercial St.
Williams, J. W., Hinton Bldg.
Williams, N. C., Hinton Bldg.
Willier, A. F., Commercial St.
Woody, C. E., Over Dalrymple Drug Co.
Wright, J. P., Hinton Bldg.

GRUNDY COUNTY.

Asher, J. A., Trenton, Mo.
Coon, D. W., Trenton, Mo.
Duffy, E. A., Trenton, Mo.
Fulkerson, W. D., Trenton, Mo.
Lowry, H. L., Tindall, Mo.
Moore, T. E., Trenton, Mo.
Porterfield, Daniel, Trenton, Mo.
Sheldon, Samuel, Trenton, Mo.
Stone, John M., Laredo, Mo.
Sutton, Bertha E., Trenton, Mo.
Thompson, A. W., Galt, Mo.
Winnigham, W. H., Trenton, Mo.
Wright, J. B., Trenton, Mo.

HARRISON COUNTY.

Brewer, Lake, Ridgeway, Mo.
Broyles, F. H., Bethany, Mo.
Bryson, E. H., Bethany, Mo.
Delong, S. W. Tingley, Iowa.
Delong, W. B., Brooklyn, Mo.
Dunkerson, E. B. Hatfield, Mo.
Eades, M. H., New Hampton, Mo.
Gwinn, G. E., San Antonio, Tex.
Morrway, J. H., Ridgeway, Mo.
Robertson, C. H., Eagleville, Mo.
Stewatt, B. S., Bethany, Mo.
Vandivert, A. H., St. Joseph, Mo.
Wiley, W. H., Ridgeway, Mo.
Williams, A. W., Ridgeway, Mo.

HENRY COUNTY.

Allen, Clay, Blairstown, Mo.
Barr, Bernice B., Clinton, Mo.
Beaty, Joseph G., Huntingdale, Mo.
Berry, George W., Montrose, Mo.
Blackmore, Thomas A., Windsor, Mo.
Bradley, William P., Windsor, Mo.
Bronaugh, J. H., Calhoun, Mo.
Derwent, A. E., Clinton, Mo.
Douglass, F. M., Clinton, Mo.
Fewell, R. B., Montrose, Mo.
Gibbins, William H., Clinton, Mo.
Grady, L. C., Ladue, Mo.
Gray, A. A., Calhoun, Mo.
Gray, Thomas W., Leesville, Mo.
Griffith, C. E., Windsor, Mo.
Haire, Robert D., Clinton, Mo.
Hampton, J. R., Clinton, Mo., R. F. D. No. 1.
Head, C. W., Windsor, Mo.
Howard, Corwin F., Deepwater, Mo.
Jennings, R. J., R. F. D. No. 17, Windsor, Mo.
Kunkler, J E., Clinton, Mo.
McNees, A. Jackson, Clinton, Mo
Menees, G. W., Clinton, Mo.
Miller, J. M., Montrose, Mo.
Neeley, James E., Calhoun, Mo.
Peeler, Edwin C., Coal, Mo.
Poaque, S. A., Clinton, Mo.
Russell, J. J., Deepwater, Mo.
Shankland, Wm. M., Clinton, Mo.
Smith, L. L., Urich, Mo.
Taylor, C. D., Brownington, Mo.
Wallis, J. R., Clinton, Mo.
Wilson, J. S., Deepwater, Mo.
Woltzen, S. W., Urich, Mo.

HOLT COUNTY.

Bullock, F. E., Forest City, Mo.
Chandler, J. F., Forest City, Mo.
Davis, J. M., Craig, Mo.
Davis, T. O., Maitland, Mo.
Evans, C. L., Oregon, Mo.
Hogan, F. E., Bigelow, Mo.
Kaltenbach, E., Craig, Mo.
Kearney, Elmer, New Point, Mo.
Kelley, P. D., Craig, Mo.
McClanahan, J. W., Forbes, Mo.
Miller, Edgar, Santa Rosa, Mo.
Miller, E. M., Mound City, Mo.
Proud, W. C., Oregon, Mo.
Quigley, B. T., Mound City, Mo.
Tracy, J. C., Mound City, Mo.
Tracy, J. M., Mound City, Mo.
Williams, Ira, Maitland, Mo.
Wood, W S., Oregon, Mo.

HOWARD COUNTY.

Bonham, V. Q., New Franklin, Mo.
Champion, J. R., Hillsdale, Mo.
Fleet, J. B., New Franklin, Mo.
Gallemore, Guilford B., Fayette, Mo.
Gentle, Doke, New Franklin, Mo.
Givens, H. K., Fayette, Mo.
Hume, Joel Y., Armstrong, Mo.
Kitchen, W. B., Glasgow, Mo.
Lee, Charles H., Fayette, Mo.
Lewis, C. O., Fayette, Mo.
Richards, T. C., Fayette, Mo.
Thompson, W. Scott, Armstrong, Mo.
Watts, C. W., Fayette, Mo.
White, M. S., Shannondale, Mo.
Wood, J. T., Harrisburg, Mo.
Wright, U. S., Fayette, Mo.

HOWELL COUNTY.

Black, James D., South Fork, Mo.
Culp, J. C., Thayer, Mo.
Davis, J. C. B., Willow Springs, Mo.
Dixon, J. C. B., West Plains, Mo.
Eblen, Joseph L., Alton, Mo.
Evans, E. E., West Plains, Mo.
Johnson, James McB., West Plains, Mo.
Mitchell, E. H., Pottersville, Mo.
Nichols, D. J., West Plains, Mo.
Piles, T. C., Alton, Mo.
Rowe, H. J., Willow Springs, Mo.
Shuttee, H. C., West Plains, Mo.
Spears, R. S., West Plains, Mo.
Thompson, H. A., Lanton, Mo.
Thornburgh, A. H., West Plains, Mo.

IRON COUNTY.

Farrar, G. W., Ironton, Mo.
Gay, R. W., Ironton, Mo.
Marshall, Ira A., Ironton, Mo.
Martin, James, Pilot Knob, Mo.

JACKSON COUNTY.

(All addresses Kansas City, Mo., unless otherwise indicated.)
Adams, Noah, 407 Argyle Bldg.
Agin, Burroughs, S. W. Cor. 13th & Main.

Allbritan, J. W., 622 S. W. Blvd.
Anderson, H. C., 716 Shukert Bldg.
Armour, Wallace A., 3401 E. 12th St.
Atkins, Calvin, Independence, Mo.
Ayers, Samuel, 1208 Wyandotte St.
Ball, H. P., 203 Rialto Bldg.
Beattie, T. J., 505 Shukert Bldg.
Beedle, Gordon A., 428 Altman Bldg.
Beil, J. Wallace, 311 Argyle Bldg.
Bellows, G. E., 429 Rialto Bldg.
Belove, Benjamin, 517 Shukert Bldg.
Berry, George F., 501 Rialto Bldg.
Binnie, J. F., 302 Argyle Bldg.
Blair, Edgar G., 404 Bryant Bldg.
Blakesly, T. S., 515 Commerce Bldg.
Block, J., 419 Argyle Bldg.
Bohan, P. T., 1208 Wyandotte St.
Boswell, A. C., 622 S. W. Blvd.
Bowman, Dora Emma, 327 Rialto Bldg.
Brainard, R. F., Martin City, Mo.
Brewster, R. B., 402 Argyle Bldg.
Brown, Charles A., 418 Keith & Perry Bldg.
Brown, Ralph A., 1304 E. 12th St.
Bruehl, J., 436 N. Ridge Bldg.
Brunig, F. H., 203 Metropolitan Ave.
Burke, C. L., 304 Deardorff Bldg.
Burkhardt, E. A., 622 S. W. Bldvd.
Burnett, S. Grover, 425 Rialto Bldg.
Burrill, C. W., 623 Shukert Bldg.
Callahan, Richard, 540 Cambridge Ave.
Campbell, Wm. L., 15th & Jackson Ave.
Capell, Clarence, 534 Rialto Bldg.
Carbaugh, Eugene, 430 Rialto Bldg.
Carey, W. E., St. Joseph, Mo.
Carter, J. W., 2407 Jackson Ave.
Carver, N. H., 2805 E. 12th St.
Castelaw, R. E., 424 Argyle Bldg.
Cathcart, C. P., 419 Deardorff Bldg.
Chambers, J. Q., 705 Shukert Bldg.
Chambliss, E. L., 523 Rialto Bldg.
Child, Scott P., 603 Bryant Bldg.
Clausen, James J., 424 Deardorff Bldg.
Clendening, Logan, 404 Bryant Bldg.
Coffey, W. H., 224 Bryant Bldg.
Coffin, Geo O., Ridge Bldg.
Coleman, H. B., 3105 E. 18th St.
Conover, C. C., 405 Argyle Bldg.
Cordier, A. H., 310 Rialto Bldg.
Crooks, O. R., 323 Rialto Bldg.
Cross, R. O., 317 Rialto Bldg.
Cross, W. M., City Hall.
Crowell, H. C., 211 Rialto Bldg.
Cunningham, O. J., 405 Altman Bldg.
Curdy, R. J., 301 Keith & Perry Bldg.
Curry, E. R., 304 Deardorff Bldg.
Dailey, Forrest W., 415 Argyle Bldg.
Dannaker, C. A., 637 Woodland Ave.
Davis, A. W., 3303 Woodland Ave.
Davis, E. T., 2634 S. Myrtle.
Davis, George W., 12th & Central.
Davis, S. J. T., 304 Deardorff Bldg.
DeLamater, H., 3448 Brooklyn Ave.
DeVilbiss, E. F., 2806 Harrison St.
Dod, F. L., 4646 Troost Ave.
Donaldson, George H., 3956 Wyandotte St.
Donaldson, J. E., 3940 Broadway.
Dove, O. H., 413 Rialto Bldg.
Drake, N. A., 1001 Harrison St.
Dunham, S. A., 312 Shukert Bldg.
Eldredge, James, 308 E. 10th St.
Eubank, A. E., 3021 S. W. Blvd.
Evans, F. H., Cor. Independence & Forrest Aves.
Faires, O. P., 1300 E. 8th St.
Field, Thomas. 18th & Prospect.
Field, W. S., 720 Shukert Bldg.
Florian, Albert J., 920 Holmes St.
Foster, Hal, 402 Altman Bldg.
Fowlston, John, 405 Argyle Bldg.
Frankenberger, J. M., 534 Rialto Bldg.
Freyman, A. A., 1201 Independence Ave.
Freyman, J., 1201 Independence Ave.
Frick, William, 409 Rialto Bldg.
Frick, W. J., 415 Keith & Perry Bldg.
Froehling, F. W., 920 Holmes St.
Frye, A. G., 30th & Charlotte.
Fryer, B. E., 520 E. 9th St.
Fulton, Andrew L., 3338 Broadway.
Fulton, C. M., 210 Argyle Bldg.
Gaines, J. W., 406 Rialto Bldg.
Gayle, V. W., 204 Deardorff Bldg.
Gilmor, Wm. L., Mt. Washington, Mo.
Gist, W. L., 311 Argyle Bldg.
Goldman, Max, 309 Century Bldg.
Gosney, G. W., 310 Rialto Bldg.
Green, J. W., Independence, Mo.
Greenlee, A. R., 3510 E. 12th St.
Griffith, A. C., 522 Rialto Bldg.
Griffith, J. D., 522 Rialto Bldg.
Guffey, Don Carlos, 605 Bryant Bldg.
Hall, C. Lester, 525 Bryant Bldg.
Hall, D. Lawton, 525 Bryant Bldg.
Hall, Frank J., 422 Argyle Bldg.
Hall, G. C., Lee's Summit, Mo.
Hall, J. R., 307 Altman Bldg.
Hammil, George F., Mo. Pacific Hospital.
Hamilton, B. G., 24th & Elmwood.
Hamilton, H. D., 31st & Woodland Ave.
Hanawalt, H. O., 312 Shukert Bldg.
Hanna, M. A., 515 Commerce Bldg.
Hardin, C. B., 413 Rialto Bldg.
Harrelson, N. O., 515 Commerce Bldg.
Harrison, A., Lee's Summit, Mo.
Harrison, E. Lee, 36th & Kenwood.
Hayden, J. G., 309 Argyle Bldg.
Hearst, Allen L., Merwin, Mo.
Heitzman, C. W., 328 Argyle Bldg.
Henderson, James P., Rialto Bldg.
Henry, Frances J., 3203 Brooklyn Ave.
Herbst, Frank, 720 E. 9th St.
Hertzler, Arthur E., 402 Argyle Bldg.
Hetherington, E. M., 725 Bryant Bldg.
Hickerson, J. C., Independence, Mo.
Hill, Howard, 424 Argyle Bldg.
Hobbs, Arthur A., Raytown, Mo.
Hofman, O., Jr., 207 Argyle Bldg.
Holbrook, Ralph W., 415 Argyle Bldg.
Hollis, Luther T., 534 N. Ridge Bldg.
Horrigan, J. A., 3100 Main St.
Howard, Joseph W., 805 McGee St.
Hoxie, George Howard, 317 Argyle Bldg.
Hull, A. G., 3610 McGee St.
Hunt, J. E., 317 Argyle Bldg.
Hyde, B. C., Keith & Perry Bldg.
Irwin, Charles B., 210 Rialto Bldg.
Iuen, F. J., 1334 Grand Ave.
Iuen, W. C., 1334 Grand Ave.
Jackson, C. A., 231 Rialto Bldg.
Jackson, Jabez N., 425 Argyle Bldg.
Jacobs, Benjamin, 415 Argyle Bldg.
James, S. C., 419 Shukert Bldg.
Jerowitz, H. D., 1233 Grand Ave.
Johnson, Charles R., 231 Rialto Bldg.
Johnstone, P. A., 3340 Olive St.
Jones, K. P., 513 Commerce Bldg.
Kanoky, J. Phillip, 912 Walnut St.
Kelly, Eugene, 2018 Prospect Ave.
Kepner, John W., 908 Tracy Ave.
Kimberlin, Joseph W., 532 Altman Bldg.
King, W. Eugene, Victor Bldg.
Kistler, James R., 1120 Main St.
Klein, W. C., 523 Rialto Bldg.
Knox, Andrew C., 724 Bryant Bldg.
Kopf, A. J., 915 W. 17th St.
Krimminger, C. E., Independence, Mo.
Kuhn, H. P., 419 Keith & Perry Bldg.
Kuhn, W. F., Shukert Bldg.
Kyger, J. W., 815 E. 31st St.
Lahmer, Ira B., Walsenburg, Colo.
Lake, N. E., 1330 Summit St.
Lane, H. H., 622 S. W. Blvd.
Langsdale, John M., 508 Altman Bldg.
Lanning, J. H., 510 Commerce Bldg.
Lapp, J. G., 531 Rialto Bldg.
Laurenzana, D. A., 522 E. 5th St.
Laurenzana, Louis, 522 E. 5th St.
Leonard, H. O., 1115 Grand Ave.
Leonard, Ward H., 608 S. W. Blvd.
Lester, Charles H., 501 Bryant Bldg.
Lewis, James K., 429 Deardorff Bldg.
Lewis, Nanny P., 1219 Wyandotte St.
Lewis, Ned O., 602 Commerce Bldg.
Lichtenberg, Joseph, 428 Argyle Bldg.

Lieberman, B. A., 410 Argyle Bldg.
Logan, James E., 1208 Wyandotte St.
Look, H. H., 428 Altman Bldg.
Lowe, Frederick M., 430 Argyle Bldg.
Lowry, Walter J., 402 Hall Bldg.
Luscher, L. W., 205 E. 12th St.
Lyle, Halsey M., 311 Argyle Bldg.
Lynch, J. C., 16th & Grand Ave.
McAlester, A. W., Jr., 702 Bryant Bldg.
McArthur, A. W., 517 Shukert Bldg.
McBride, W. L., 625 Bryant Bldg.
McCall, H. B., 1424 Holmes St.
McCandless, O. H., 400 Argyle Bldg.
McCrea, Maggie L., 535 N. Ridge Bldg.
McDonald, Chett, 527 Rialto Bldg.
McDonald, Park, 527 Rialto Bldg.
McKee, Joseph W., 329 Rialto Bldg.
McKillip, O. L., 532 Altman Bldg.
McPherson, C. P., 515 Commerce Bldg.
McQuade, H. D., 210 Rialto Bldg.
McVey, Newton, 325 Rialto Bldg.
Mallett, E. Pierce, 302 Argyle Bldg.
Manko, Emanuel, 227 W. 12th St.
Mann, A. W., Oak Grove, Mo.
Mark, Ernest G., 309 Argyle Bldg.
Martin, Henry L., 601 E. 12th St.
Martin, J. C., 334 Rialto Bldg.
Mathias, Edward L., 210 Rialto Bldg.
Merriman, C. S., 2511 Forrest Ave.
Middleton, James, 412 N. Montgall.
Miller, Hugh, 705 Shukert Bldg.
Mitchell, John T., 510 Rialto Bldg.
Moennighoff, Fritz J., 513 Rialto Bldg.
Montgomery, W. E., 429 Rialto Bldg.
Morris, W. C., 315 Garfield Ave.
Morrow, C. J., 505 Bryant Bldg.
Morrow, W. F., 502 Altman Bldg.
Moses, J. E., 3739 Genesee St.
Mosher, George C., 605 Bryant Bldg.
Mott, J. S., 517 Rialto Bldg.
Murphy, Franklin E., 405 Deardorff Bldg.
Neff, Frank C., 523 Altman Bldg.
Newhouse, Standley, 452 Ridge Bldg.
Nixon, J. W., 517 Shukert Bldg.
Nixon, William A., Densmore Hotel.
Norberg, George B., 311 Argyle Bldg.
O'Connor, C., 13th & Campbell.
O'Donnell, Alfred, Ellsworth, Kas.
Ousley, J. W., 211 Argyle Bldg.
Overall, T. W., 422 Rialto Bldg.
Owens, M. J., 622 S. W. Blvd.
Parker, O. H., 12th & Central.
Pearse, H. E., 513 Rialto Bldg.
Perkins, John W., 423 Altman Bldg.
Pettijohn, N. J., 3416 Holmes St.
Phillips, E. T., 1019 Broadway.
Pinckard, C. G., 901 E. 8th St.
Pipkin, George P., 5520 Wayne St.
Pittam, J. Thomas, 1106 Broadway.
Porter, Allen L., Commerce Bldg.
Porter, D. R., 430 W. 10th St.
Pugsley, Fred N., 701 Highland Ave.
Punton, John, 532 Altman Bldg.
Ragan, R. C., Granview, Mo.
Ragsdale, T. J., Lee's Summit, Mo.
Rathbone, F. W., 3303 Woodland Ave.
Reed, William M., 422 Rialto Bldg.
Reiger, Earle, 1105 W. 24th St.
Reyling, F. E., 1004 Oak St.
Reynolds, W. T., 324 Shukert Bldg.
Rice, William, 402 Hall Bldg.
Richardson, Katherine B., 21 Clinton Pl.
Riegle, David H., 1432 Summit St.
Ritter, C. A., 704 Bryant Bldg.
Roberson, H. M., Mo. Pacific Hospital.
Roberts, J. L., 224 Argyle Bldg.
Robertson, J. Archie, 705 Shukert Bldg.
Robinson, Ernest F., 603 Bryant Bldg.
Robinson, John L., 502 Altman Bldg.
Rogers, Ford B., 402 Argyle Bldg.
Rogers, J. C., 403 Rialto Bldg.
Rosenwald, Leon, 409 Argyle Bldg.
Sanders, Frank L., 511 Shukert Bldg.
Sanders, St. Elmo, 419 Shukert Bldg.
Sandzen, Carl, 3601 Troost Ave.
Sawyer, J. F., 317 Rialto Bldg.
Sawyer, Thomas T., 4303 E. 15th St.
Schauffler, E. W., 317 Argyle Bldg.
Schauffler, Robert M., 317 Argyle Bldg.
Schutz, W. H., 712 Bryant Bldg.
Scott, J. N., 606 Commerce Bldg.
Sheley, O. C., Independence, Mo.
Sheldon, J. G., 405 Altman Bldg.
Shelton, W. A., 406 Argyle Bldg.
Sherer, J. W., 418 Argyle Bldg.
Shirk, Wm., 515 Commerce Bldg.
Shumate, D. L., 517 Shukert Bldg.
Singleton, J. M., 621 Commerce Bldg.
Skinner, Edward H., 621 Commerce Bldg.
Sloan, Robert T., 407 Rialto Bldg.
Smith, J. H., 426 Rialto Bldg.
Smith, Robert M., 203 E. 12th St.
Stephens, Nanny A., 817 E. 31st St.
Stevens, William W., 513 Rialto Bldg.
Stewart, Edward L., 1115 Grand Ave.
Stoffer, S. R., 3818 Independence Ave.
Street, St. Clair, 302 Argyle Bldg.
Strother, J. S., 418 Keith & Perry Bldg.
Sutton, R. L., 518 Commerce Bldg.
Swaney, A. G., Lee's Summit.
Switzer, Clyde, 12th & Troost.
Talbot, Ambrose, 203 Rialto Bldg.
Taylor, L. G., 429 Deardorff Bldg.
Tesson, N. A. G., 405 Argyle Bldg.
Thomas, A. W., Springfield, Mo.
Thompson, George B., 12th & Central.
Thompson, James, 207 Rialto Bldg.
Thompson, J. H., 402 Deardorff Bldg.
Thornton, T. R., Lee's Summit, Mo.
Thrailkill, E. H., 307 Rialto Bldg.
Tieman, T. G., 608 S. W. Blvd.
Tiffany, Flavel B., 805 McGee St.
Trask, C. D., 16th & Summit Sts.
Trimble, W. K., 3444 Prospect Ave.
Tureman, H. G., 625 Bryant Bldg.
Twyman, E. D., Independence, Mo.
Twyman, G. T., Independence, Mo.
Van Eman, Fred T., 412 Argyle Bldg.
Voegelin, Samuel, 436 N. Ridge Bldg.
Von Quast, E., 309 Century Bldg.
Wall, A. H., 334 Rialto Bldg.
Wedding, E. V., 2122 E. 15th St.
Welch, A. J., 434 Rialto Bldg.
Wever, J. S., 501 Bryant Bldg.
Wheeler, B. H., 424 Deardorff Bldg.
Wheeler, W. S., 204 E. 12th St.
Wherritt, H. P., Independence, Mo.
Willits, Wilmot C., 311 Argyle Bldg.
Wilson, Albert M., 906 Main St.
Wilson, C. E., 418 Keith & Perry Bldg.
Wilson, Dora Green, 420 Rialto Bldg.
Wilson, John, 720 Shukert Bldg.
Wolf, I. J., 203 Argyle Bldg.
Woods, D. L., 4 E. 10th St.
Wood, N. P., Independence, Mo.
Wooley, Paul V., 309 Argyle Bldg.
Zwart, B. H., 1019 Prospect Ave.

JASPER COUNTY.

Barnett, A. F., Walla Walla, Wash.
Bragdon, G. W., Reeds, Mo.
Carpenter, A. L., Carl Junction, Mo.
Chenoweth, L. C., Webb City, Mo.
Clark, A. B., Joplin, Mo.
Clark, J. W., Carterville, Mo.
Cummings, C. C., Joplin, Mo.
Donohoo, Phillip, Walla Walla, Wash.
Dickerson, H. N., Joplin, Mo.
Freeman, A. B., Joplin, Mo.
Gregg, A. M., Joplin, Mo.
Hall, Elizabeth, Carthage, Mo.
Harutun, M. B., Joplin, Mo.
Henry, M. B., Alba, Mo.
James, Robert Myles, Joplin, Mo.
Jeans, J. W., Prosperity, Mo.
Kelso, R. S., Joplin, Mo.
Ketcham, C. M., Carthage, Mo.
Kincheloe, M. B., Joplin, Mo.
Lanyon, W. H., Joplin, Mo.
Lucas, H. R., Miners Bank Bldg., Joplin Mo.
McAlister, N. E., Joplin, Mo.

McClure, G. W., Carterville, Mo.
McMichael, O. A., Denver, Colo., Box 558.
Mack, Mary L., Joplin, Mo.
Mallory, Wm. H., Joplin, Mo.
Matthews, L. I., Joplin, Mo.
Mays, G. I., Joplin, Mo.
Miller, G. W., Joplin, Mo.
Miller, S. H., Joplin, Mo.
Neff, R. L., Joplin, Mo.
Pifer, J. D., Joplin, Mo.
Post, W. B., Carthage, Mo.
Powers, Everett, Carthage, Mo.
Powers, H. C., Chitwood, Mo.
Shelton, M. C., Joplin, Mo.
Snyder, A. R., Joplin, Mo.
Spriggs, M. L., Joplin, Mo.
Steele, W. E., Carthage, Mo.
Taulbee, J. B., Joplin, Mo.
Taylor, Calvin B., Carthage, Mo.
Taylor, H. H., Joplin, Mo.
Wolfe, B. F., Jasper City, Mo., R. F. D. No. 5.

JEFFERSON COUNTY.

Bryan, G. G., De Soto, Mo.
Donnell, R. E., De Soto, Mo.
Farrar, W. H., De Soto, Mo.
Hensley, O. E., Pevely, Mo.
Jones, J. E., Hillsboro, Mo.
McNutt, I. N., Pevely, Mo.
Mockbee, G. M., Poplar Bluff, Mo.
Tidwell, G. W., De Soto, Mo.

JOHNSON COUNTY.

Aber, W. H., Montserrat, Mo.
Adcock, D. C., Warrensburg, Mo.
Adcock, J. A. B., Warrensburg, Mo.
Anderson, J. I., Warrensburg, Mo.
Anderson, John T., Warrensburg, Mo.
Bozarth, John R., Centerview, Mo.
Bradley, T. L., Warrensburg, Mo.
Case, Z., Warrensburg, Mo.
Crank, A. C., Pittsville, Mo.
Gilbert, E. H., Warrensburg, Mo.
Hall, O. B., Warrensburg, Mo.
Johnson, W. E., Warrensburg, Mo.
Murray, L. F., Holden, Mo.
Murray, Samuel A., Holden, Mo.
Ozias, Charles O., Warrensburg, Mo.
Park, Henry, Sweet Springs, Mo.
Parker, H. F., Warrensburg, Mo.
Porter, J. E., Knobnoster, Mo.
Rice, John M., Columbus, Mo.
Schofield, L. J., Warrensburg, Mo.
Schooley, R. C., Fayetteville, Mo.
Shy, D. E., Knobnoster, Mo.
Shy, M. P., Knobnoster, Mo.
Simpson, J. T., Holden, Mo.
Thompson, W. G., Holden, Mo.

KNOX COUNTY.

Brown, George, Edina, Mo.
Brown, L. S., Edina, Mo.
Jurgens, H., Edina, Mo.
Luman, T. E., Baring, Mo.
Northcutt, J. R., Knox City, Mo.
St. John, H. H., Edina, Mo.
Wilsey, A. R., Hurdland, Mo.

LACLEDE COUNTY.

Anderson, J. N., Mountain Grove, Mo.
Atchley, J. B., Lebanon, Mo.
Billings, J. M., Lebanon, Mo.
Casey, S. A., Lebanon, Mo.
Casey, T. H., Lebanon, Mo.
Hartley, L. D., Nebo, Mo.
Herbert, T. B., Lebanon, Mo.
Lendsay, J. W., Orla, Mo.
McComb, James, Lebanon, Mo.
McComb, J. A., Lebanon, Mo.
Resser, J. H. H., Conway, Mo.
Tinsley, J. H., Orla, Mo.
Ware, T. V., Lebanon, Mo.

LAFAYETTE COUNTY.

Braecklein, W. A., Higginsville, Mo.
Carthrae, Lewis, Corder, Mo.
Carthrae, Lewis, Jr., Corder, Mo.
Chalkley, A. J., Lexington, Mo.
Cope, J. Q., Lexington, Mo.
Fischer, J. G. W., Alma, Mo.
Fredendall, G. W., Lexington, Mo.
Fulkerson, J. J., Lexington, Mo.
Harwood, W. G., Dover, Mo.
Hoefer, E. A., Higginsville, Mo.
Lieser, F. D., Concordia, Mo.
Lissack, H. M., Lexington, Mo.
McLennan, T. A., Higginsville, Mo.
Mann, F. W., Wellington, Mo.
Mann, J. A., Wellington, Mo.
Moore, C. M., Corder, Mo.
Oetting, O. G., Concordia, Mo.
Payne, B. T., Lexington, Mo.
Payne, N. B., Lexington, Mo.
Porter, W. A., Higginsville, Mo.
Roberts, M. G., Lexington, Mo.
Ryland, C. T., Lexington, Mo.
Schneider, J. A., Concordia, Mo.
Schriemann, F., Concordia, Mo.
Watts, R. B., Napoleon, Mo.
Webb, W. C., Higginsville, Mo.
Williams, George, Fulton, Mo.

LAWRENCE-STONE COUNTY.

Andrews, J. P., Marionville, Mo.
Baird, Jesse P., Marionville, Mo.
Brown, O. H., Mt Vernon, Mo.
Burney, W. S., Miller, Mo.
Clark, S. M., Halltown, Mo.
Cottingham, Ira A., Ft. Worth, Tex.
Gravens, J. H., Marionville, Mo.
Doggett, F. C. R., Crane, Mo.
Fleming, J. B., Aurora, Mo.
Freeland, P. L., Pierce City, Mo.
Goodrich, E. E., Crane, Mo.
Gum, L. J., Lawrenceburg, Mo.
Harding, D. E., Aurora, Mo.
Harris, J. A., Mt. Vernon, Mo.
Henson, L., Galena, Mo.
Holmes, W. M., Marionville, Mo.
Huffman, D. M., Crane, Mo.
King, C. R., Crane, Mo.
Loveland, W. S., Verona, Mo.
Madry, A. H., Aurora, Mo.
Miller, Thomas D., Aurora, Mo.
Orrick, G. W., Mount Vernon, Mo.
Rodman, W. W., Pierce City, Mo.
Roseberry, E. C., Mt. Vernon, Mo.
Shelton, C. W., Mt. Vernon, Mo.
Smart, R. W., Crane, Mo.
Stevenson, F. S., Aurora, Mo.
Wade, E. E., Clever, Mo.
Wade, J. H., Ponce De Leon, Mo.

LEWIS COUNTY.

Brown, J. C., Lewistown, Mo.
Cole, Paul F., Steffenville, Mo.
Dunlop, H. E., Canton, Mo.
Ford, John, Williamstown, Mo.
Frame, C. N., Ewing, Mo.
Knight, George P., Benjamin, Mo.
McGlasson, T. F., Lewistown, Mo.
McKim, H. W., La Belle, Mo.
Schofield, R. B., Lewistown, Mo.
Shanks, C. O., Canton, Mo.
Wilson, R. E., La Belle, Mo.

LINCOLN COUNTY.

Moore, Wm. L., Truxton, Mo.

LINN COUNTY.

Adams, W. R., Laredo, Mo.
Brownfield, S. T., Brookfield, Mo.
Buck, U. G., Rothville, Mo.

Burke, Foster W., Laclede, Mo.
Burke, J. L., Laclede, Mo.
Clint, M. L., Meadville, Mo.
Cochran, B. F., Brookfield, Mo.
Dryden, U. C., Purdin, Mo.
Ellis, W. W., Marceline, Mo.
Epler, J. W., Bucklin, Mo.
Eure, J. B., Brookfield, Mo.
Fore, T. P., Brookfield, Mo.
Frazier, Leland, Marceline, Mo.
Haley, Robert, Brookfield, Mo.
Home, L. O., Linneus, Mo.
Howard, D. F., Brookfield, Mo.
Ingram, W. C., Browning, Mo.
Jenkins, C. E., Brookfield, Mo.
Johnson, H. C., Meadville, Mo.
Lane, J. W., Linneus, Mo.
Morris, R. H., Linneus, Mo.
Musgrove, W. H., Eversonville, Mo.
Nevins, James A., North Salem, Mo.
Oven, T. P., Brookfield, Mo.
Patrick, P. L., New Boston, Mo.
Polson, J. T., Laclede, Mo.
Pound, J. B., New Boston, Mo.
Pratt, H. H., Brookfield, Mo.
Putman, Ola, Marceline, Mo.
Putman, B. B., Marceline, Mo.
Ridings, O. H., Meadville, Mo.
Scott, W. B., Bucklin, Mo.
Shepherd, J. D., Meadville, Mo.
Standly, E. D., Linneus, Mo.
Standly, K. V., Brookfield, Mo.
Standly, Z. T., Laclede, Mo.
Stratton, C. D., Rothville, Mo.
Thompson, J. M., Meadville, Mo.
Whaley, R. W., Browning, Mo.

LIVINGSTON COUNTY.

Barney, Reuben, Chillicothe, Mo.
Batdorf, F. P., Farmersville, Mo.
Carpenter, George W., Utica, Mo.
Coon, Earle, Wheeling, Mo.
Girdner, W. M., Chillicothe, Mo.
Gordon, David, Chillicothe, Mo.
Grace, H. M., Chillicothe, Mo.
Graham, Thomas E., Chula, Mo.
Minor, James C., Chillicothe, Mo.
Murray, R. W., Ludlow, Mo.
Patton, C. W., Mooresville, Mo.
Piatt, K. S., Chillicothe, Mo.
Shelton, J. C., Chillicothe, Mo.
Simpson, A. J., Chillicothe, Mo.
Simpson, W. R., Chillicothe, Mo.
Stevens, B. N., Chillicothe, Mo.
Swope, W. A., Wheeling, Mo.
Tracy, L. E., Chillicothe, Mo.
Trimble, J. W., Chillicothe, Mo.
White, W. L., Chillicothe, Mo., R. F. D.

MACON COUNTY.

Allen, F. W., Kaseyville, Mo.
Bradley, W. E., Ethel, Mo.
Brewington, George F., Bevier, Mo.
Bulkley, C. H., La Plata, Mo.
Cambre, A. L., Atlanta, Mo.
Clements, E. B., Macon, Mo.
Dailey, F. B., Keota, Mo.
Drew, F. W., Ethel, Mo.
Foster, J. P., La Crosse, Mo.
Greenwood, T. M., Keota, Mo.
Halliburton, J. M., Atlanta, Mo.
Hooper, C. L., Ardmore, Mo.
Hunt, J. R., Callao, Mo.
Mason, L. O., Bevier, Mo.
Miller, A. B., Macon, Mo.
Miller, W. H., Macon, Mo.
Newton, H. O., La Plata, Mo.
Norris, T. J., Macon, Mo.
Pipkin, W. D., Excello, Mo.
Reagan, C. W., Macon, Mo.
Rowland, W. P., Bevier, Mo.
Salyer, C. E., Callao, Mo.
Tainter, P. R., Callao, Mo.
Thompson, L. M., Macon, Mo.
Watson, T. S., Bevier, Mo.
Welch, William A., Callao, Mo.

MADISON COUNTY.

Anthony, C. A., Fredericktown, Mo.
Barron, W. H., Mine La Motte, Mo.
Carr, G. M., Marquand, Mo.
Chattle, W. K., St. Louis, Mo.
Davis, C. U., Fredericktown, Mo.
Dines, G. L., Fredericktown, Mo.
Gale, F. W., Marquand, Mo.
Greenwood, G. H., Fredericktown, Mo.
Haley, O., Fredericktown, Mo.
Hull, Lafayette, Marquand, Mo.
Newberry, F. R., Fredericktown, Mo.
Nifong, William, Fredericktown, Mo.
Slaughter, S. C., Fredericktown, Mo.
Smith, J. K., Fredericktown, Mo.

MARION COUNTY.

Banks, H. L., Hannibal, Mo.
Baskett, J. N., Hannibal, Mo.
Blue, A. B., Hannibal, Mo.
Bounds, E. H., Hannibal, Mo.
Bourn, J. J., Hannibal, Mo.
Bush, F. W., Hannibal, Mo., R. No. 2.
Chilton, J. C., Hannibal, Mo.
Chowning, Thomas, Hannibal, Mo.
Detweiler, A. J., Hannibal, Mo.
Dudley, C. R., Hannibal, Mo.
Farrell, J. J., Hannibal, Mo.
Glahn, C. P., Palmyra, Mo.
Goodier, R. H., Hannibal, Mo.
Guss, W. C., Hannibal, Mo.
Hays, W. H., Hannibal, Mo.
Hill, I. E., Hannibal, Mo.
Hornback, E. T., Hannibal, Mo.
Howell, J. S., Hannibal, Mo.
Paxon, C. E., Hannibal, Mo.
Primm, J. N., Hannibal, Mo.
Roselle, T. A., Palmyra, Mo.
Sanford, Silas, Palmyra, Mo.
Schmidt, R., Hannibal, Mo.
Smith, S. G., Hannibal, Mo.
Smith, U. S., Hannibal, Mo.
Waldo, E. E., Hannibal, Mo.
Winn, R. M., Hannibal, Mo.

MERCER COUNTY.

Bristow, G. M., Princeton, Mo.
Buren, C. R., Princeton, Mo.
Chesmore, H. P., Princeton, Mo.
Nally, H., Cainsville, Mo.
Pickett, C. P., Mercer, Mo.

MILLER COUNTY.

Allee, W. L., Eldon, Mo.
Allee, W. S., Olean, Mo.
Benage, J. I., Iberia, Mo.
Brockman, H. H., Eldon, Mo.
DeVilbis, Frank, Eugene, Mo.
Dickson, W. D., Tuscumbia, Mo.
Duncan, George W., Ulman, Mo.
Gilleland, J. L., Olean, Mo.
Kouns, D. H., Tuscumbia, Mo.
Leslie, Walter L., Russellville, Mo.
Shelton, E. C., Eldon, Mo.
Temple, J. W., Eldon, Mo.
Von Gremp W. A., Iberia, Mo.
Walker, G. D., Eldon, Mo.

MISSISSIPPI COUNTY.

Aldridge, R. P., Anniston, Mo.
Boggan, P. P., Fayetteville, Ark.
Chapman, A. W., Charleston, Mo.
Finley, F. L., Anniston, Mo.
Hamner, M. D., Bertrand, Mo.

Howle, W. P., Charleston, Mo.
Love, W. S., Bertrand, Mo.
Lynch, J. W., Charleston, Mo.
Martin, A. J., East Prairie, Mo.
Martin, S. P., East Prairie, Mo.
Ogilvie, R. K., Blodgett, Mo.
Pressnell, U. A., Charleston, Mo.
Pressnell, C. C., Charleston, Mo.
Ralls, E. J., Wyatt, Mo.
Reid, H. L., Charleston, Mo.
Wallace, G. R., Bertrand, Mo.

MONITEAU COUNTY.

Allee, E. M., Speed, Mo.
Bramel, H. W., McGirk, Mo.
Burke, J. P., California, Mo.
Crum, J. A., Marion, Mo.
Dearing, W. A., Jamestown, Mo.
Freudenberger, H. C., Clarksburg, Mo
Gray, L. M., California, Mo.
Inglish, J. E., Bacon, Mo.
Klueber, H. C., California, Mo.
Koelle, J. W., Jamestown, Mo.
Lang, J. H., Centertown, Mo.
Latham, H. W., Latham, Mo.
Latham, L. L., Latham, Mo.
Marsh, Harry, Tipton, Mo.
Marsh, J. W., Tipton, Mo.
Norman, J. B., California, Mo.
Patterson, W. R., Tipton, Mo.
Popejoy, H. R., California, Mo.
Redmon, S. H., Tipton, Mo.
Robertson, J. M., Bunceton, Mo.
Stewart, J. B., Clarksburg, Mo.
Thorpe, A. V., Jamestown, Mo.
Wilson, G. S., Fortuna, Mo.

MONROE COUNTY.

Baker, C. M., Santa Fe, Mo.
Bell, W. T., Stoutsville, Mo.
Brown, J. E., Florida, Mo.
Cassidy, G. H., Tulip, Mo.
Duncan, Edward, Long Branch, Mo.
Furnish, J. A., Paris, Mo., R. F. D. No. 1
Hull, J. H., Monroe City, Mo.
Luesley, M. E., Madison, Mo.
McGee, D. W., Paris, Mo.
McMurry, M. C., Paris, Mo.
McNutt, W. B. A., Monroe City, Mo.
Miles, A. W., Monroe City, Mo.
Moss, F. M., Paris, Mo.
Nolan, M. R., Holliday, Mo.
Payne, H. C., Paris, Mo.
Ragsdale, G. M., Paris, Mo.
Shobe, H. G., Paris, Mo.
Southern, J. N., Monroe City, Mo.

MONTGOMERY COUNTY.

Cox, S. S., Wellsville, Mo.
Dunham, N. S., Wellsville, Mo.
Ford, H. W., Middleton, Mo.
Hudson, D. O., Montgomery City, Mo.
Hudson, E. A., Wellsville, Mo.
Jones, J. L., Jonesburg, Mo.
Muns, G. E., Montgomery City, Mo.
Nowlin, David, Montgomery City, Mo.
Revelle, C. A., New Florence, Mo.
Tinsley, E. W., Montgomery City, Mo.
Wheeler, W. M., High Hill, Mo.

MORGAN COUNTY.

Fry, Charles, Syracuse, Mo.
Gunn, A. J., Versailles, Mo.
Lutman, H. N., Versailles, Mo.
Short, J. L., Rolla, Mo.
Well, William, Versailles, Mo.
Woods, Peter George, Versailles, Mo.

NEW MADRID COUNTY.

Blackman, C. S., Parma, Mo.
Dawson, George, New Madrid, Mo.
Diggs, W. L., New Madrid, Mo.
Fakes, John David, La Forge, Mo.
Hollenbeck, T. S., Portageville, Mo.
Jones, E. E., Lilbourn, Mo.
Mayfield, Pinkney M., Portageville, Mo.
O'Bannon, Welton, New Madrid, Mo.
Phillips, F. L., Portageville, Mo.
Sibley, William Austin, Marston, Mo.
Timberman, John Harrison, Marston, Mo.

NEWTON COUNTY.

Benton, A. W., Neosho, Mo.
Bowers, Horace, Neosho, Mo.
Bridges, J. M., Diamond, Mo.
Brown, W. D., Newtonia, Mo.
Campbell, W. M., Seneca, Mo.
Chapman, U. S., Diamond, Mo.
Doty, E. C., Anderson, Mo.
Foster, H. F., Neosho, Mo.
Hancock, J. B., Newtonia, Mo.
Hodges, J. J., Granby, Mo.
Langley, J. W., Granby, Mo.
Lamson, J. W., Neosho, Mo.
Lamson, R. C., Neosho, Mo.
Maas, A., Neosho, Mo.
Porter, H. L., Seneca, Mo.
Roseberry, E. M., Neosho, Mo.
Weems, D. L., Neosho, Mo.
Wills, R. L., Neosho, Mo.

NODAWAY COUNTY.

Allen, A. B., Maryville, Mo.
Anthony, F. R., Maryville, Mo.
Barnet, A. D., Guilford, Mo.
Crowson, E. L., Pickering, Mo.
Cummins, K. C., Maryville, Mo.
Day, Hiram, Parnell, Mo.
Dean, J. W., Maryville, Mo.
Dean, C. G., Burlington Junction, Mo.
Dean, L. E., Maryville, Mo.
Fisher, A. T., Maryville, Mo.
Heryford, W. B., Pickering, Mo.
Hunterson, D. J., Parnell, Mo.
Johns, Gomer, Wilcox, Mo.
Koch, C. D., Maryville, Mo.
Larrabee, A. J., Barnard, Mo.
McClanahan, J. M., Guilford, Mo.
Moltzhan, E. T., Ravenwood, Mo.
Nash, C. A., Maryville, Mo.
Pierpoint, J. E., Skidmore, Mo.
Pollard, H. M., Barnard, Mo.
Ryan, F. M., Quitman, Mo.
Smith, D. G., Arkoe, Mo.
Stuckel, W. B., Clyde, Mo.
Todd, J. H., Maryville, Mo.
Wallace, W. E., Burlington Junction, Mo.
Wallis, F. C., Maryville, Mo.
Wallis, W. M., Jr., Maryville, Mo.
Wallis, W. M., Sr., Maryville, Mo.

PEMISCOT COUNTY.

Byers, H. T., Caruthersville, Mo.
Crowe, B. D., Caruthersville, Mo.
Granger, G. A., Steele, Mo.
Hudgings, M. H., Caruthersville, Mo.
Johnson, J. W., Hayti, Mo.
Luten, J. B., Caruthersville, Mo.
Mickie, T. A., Cooter, Mo.
Sharp, I. F., Cottonwood Point, Mo.

PETTIS COUNTY.

(All addresses Sedalia unless otherwise stated.)

Albers, E. A., Smithton, Mo.
Alderman, M. C., Porter Bldg.

Bishop, Wm. T., Hughesville, Mo.
Bohling, C., Maywood Hospital.
Campbell, A. J., 345 Cassidy Bldg.
Cartwright, C. P., Sedalia, Mo., R. F. D. No. 1.
Clabaugh, O. W., Green Ridge, Mo.
Cole, H. B., Maywood Hospital.
Collins, M. T., 219 Ilgenfritz Bldg.
Cowan, W. G., Carlsbad, N. M.
Dunlap, W. O., 108 W. Main St.
Dyer, D. P., Porter Bldg.
Evans, W. H., 420 S. Ohio St.
Ferguson, R. L., Green Ridge, Mo.
Ferguson, W. J., 321 S. Ohio St.
Garton, Avery M., Topeka, Kas.
Harris, B. W., Georgetown, Mo.
Hatton, O. F., Clifton Hill, Mo., R. F. D. No. 2.
Heaton, A. H., 109 W. 7th St.
Hubbard, J. D., Versailles, Mo.
Kelly, S. G., Ilgenfritz Bldg.
Knott, Minerva, 210 W. 6th St.
Love, J. G., Nevada, Mo.
McCann, J. P., La Monte, Mo.
McNeil, C. A., 302 Hoffman Bldg.
McNeil, G. E., M., K. & T. Hospital.
Mitchell, J. E., Lookout, Mo.
Mitchell, J. E., Hughesville, Mo.
Morley, Frank R., 5th & Engineer Sts.
Nasse, E., Rocky Ford, Colo.
Overstreet, W. C., 312 S. Ohio Ave.
Powers, John A., Dresden, Mo.
Prowell, J. D., Longwood, Mo.
Sands, M. L., Warsaw, Mo.
Simonds, Wallace, Katy Bldg.
Sutton, F. L., 504 S. Ohio Ave.
Titsworth, Guy, 306 Hoffman Bldg.
Trader, C. B., Brandt Bldg.
Walker, W. D., La Monte, Mo.
Wills, Wm. J., Sedalia, Mo.
Wood, E. A., Maywood Hospital.
Yancey, E. F., M., K. & T. Hospital.

PHELPS COUNTY.

Baysinger, S. L., Rolla, Mo.
Breuer, W. H., St. James, Mo.
Breuer, R. E., Newburg, Mo.
Burns, W. F., Newburg, Mo.
Johnson, R. L., Rolla, Mo.
Orrick, G. W., Mount Vernon, Mo.
Orrick, G. W., Rolla, Mo.
Reed, H. L., Beulah, Mo.
Rowe, S. B., Rolla, Mo.
Short, Martha, Rolla, Mo.
Smith, B. T., Newburg, Mo.

PIKE COUNTY.

Bankhead, C. L., Paynesville, Mo.
Bankhead, J. E., Clarksville, Mo.
Bartlett, E. M., Clarksville, Mo.
Biggs, M. O., Bowling Green, Mo.
Davis, J. D., Louisiana, Mo.
Dreyfus, J. W., Louisiana, Mo.
Edgell, O. K., Cyrene, Mo.
Guy, L. Paxton, Cyrene, Mo.
Kennedy, J. J., Frankford, Mo.
Pollard, W. H., Eolia, Mo.
Shotwell, Richard, Curryville, Mo.
Smith, C. A., Annada, Mo.
Tinsley, G. N., Bowling Green, Mo.
Turner, J. W., Louisiana, Mo.
Unsell, J. B., Louisiana, Mo.
Walters, F. E., Bowling Green, Mo.

PLATTE COUNTY.

Benham, C. E., Parkville, Mo.
Carter, J. J., Weston, Mo.
Chastian, C. H., Weston, Mo.
Clark, H. M., Platte City, Mo.
Coffey, G. C., Platte City, Mo.
Gardener, P. L., Walron, Mo.
Hale, J. M., Dearborn, Mo.
Herndon, A. S., Camden Point, Mo.
Hull, E., Camden Point, Mo.
Moore, M. A., Dearborn, Mo.
Naylor, Alva, Platte City, Mo.
Redman, Spencer, Platte City, Mo.
Shafer, F. M., Edgerton, Mo.
Shultz, J. W., Weston, Mo.
Smith, A. S. J., Dearborn, Mo.
Swaney, W. D., Linkville, Mo.
Willis, John, Farley, Mo.
Wilson, R. P. C., Platte City, Mo.

POLK COUNTY.

Brown, C. H., Fair Play, Mo.
Cossins, S. W., Morrisville, Mo.
Coy, John W., Fair Play, Mo.
Helm, J. A., Morrisville, Mo.
Hopkins, W. S., Bolivar, Mo.
Hunt, L. L., Fair Play, Mo.
Loafman, J. E., Bolivar, Mo.
Lyttle, James, Goodson, Mo.
McLaughlin, J. A., Aldrich, Mo.
Mitchell, A. P., Bolivar, Mo.
Meyers, W. T., Aldrich, Mo.
Paris, R. W., Morrisville, Mo.
Roberts, J. F., Bolivar, Mo.
Russell, R. Lee, Humansville, Mo.
Stufflebam, Andrew J., Humansville, Mo.
Wrinkle, T. D., Pittsburg, Mo.

PULASKI COUNTY.

Carter, W. C., Bois D'Arc, Mo.
Klostermann, H. W., Laquey, Mo.
McCully, James, Dixon, Mo.
Murphy, H. G., Richland, Mo.
Oliver, Evertt A., Richland, Mo.
Ragan, W. L., Richland, Mo.
Rayle, J. E., Crocker, Mo.
Rolens, L. E., Dixon, Mo.
Rolens, M. F., Dixon, Mo.
Sell, W. J., Waynesville, Mo.
Stebbins, N. I., Crocker, Mo.
Tice, L., Waynesville, Mo.

PUTMAN COUNTY.

Carryer, Carl H., Unionville, Mo.
Giesinger, Edgar, Unionville, Mo.
Holman, Journey H., Unionville, Mo.
Montgomery, Enoch, Unionville, Mo.
Nulton, Ida May, Livonia, Mo.
Townsend, J. A., Unionville, Mo.

RALLS COUNTY.

Birney, W. L., Oakwood, Mo.
Birney, William P., Center, Mo.
Downing, T. J., New London, Mo.
Graves, C. H., Center, Mo.
Harwood, W. K., Rensselaer, Mo.
Hendrix, W. G., New London, Mo.
McCollum, R. W., Farber, Mo.
Monroe, Thomas, Laddonia.
Walter, Frederick, Perry, Mo.
Waters, W. T., New London, Mo.

RANDOLPH COUNTY.

Adams, S. C., Huntsville, Mo.
Ash, O. O., Moberly, Mo.
Bagby, B. H., Cairo, Mo.
Barnhart, D. A., Huntsville, Mo.
Bazan, L. A., Clark, Mo.
Bragg, G. G., Huntsville, Mo.
Clapp, C. B., Moberly, Mo.
Cottingham, T. A., Moberly, Mo.
Cuppaidge, G. O., Moberly, Mo.
Davidson, J. H., Higbee, Mo.
Dickerson, W. M., Renick, Mo.

Dutton, C. K., Moberly, Mo.
Hickerson, E. R., Moberly, Mo.
Johnson, G. A., Moberly, Mo.
Lyter, J C., Moberly, Mo.
McCormick, F. L., Darksville, Mo.
Mabee, J. R., Huntsville, Mo.
Mangus, C. W., Moberly, Mo.
Mangus, T. D., Moberly, Mo.
Rafter, J. G., Huntsville, Mo.
Towles, S. P., Jacksonville, Mo.

RAY COUNTY.

Ball, J. E., Richmond, Mo.
Clark, J. F., Rayville, Mo.
Cook, T. D., Rayville, Mo.
Crawford, M. E., Camden, Mo.
Ellis, L. E., Orrick, Mo.
Estill, W. G., Lawson, Mo.
Etherton, W. C., Camden, Mo.
Greene, L. D., Richmond, Mo.
Grimes, Marvin, Hardin, Mo.
Hamilton, R. L., Richmond, Mo.
Higdon, E. F., Richmond, Mo.
Joiner, G. W., Rayville, Mo.
Major, Hermon S., Hardin, Mo.
McGaugh, Elmer T., Richmond, Mo.
Rentfro, E. W., Rayville, Mo.
Reney, J. H., Lawson, Mo.
Sevier, Robert, Richmond, Mo.
Sheetz, Robert, Orrick, Mo.
Shotwell, C. B., Richmond, Mo.
Smith, George W., Henrietta, Mo.
Smith, James W., Richmond, Mo.
Stapp, J. H., Hardin, Mo.

RIPLEY COUNTY.

Bennie, W. D., Naylor, Mo.
Gossage, W. L., Fairdealing, Mo.
Hume, J. R., Doniphan, Mo.
Proctor, S. A., Doniphan, Mo.
Redwine, J. T., Doniphan, Mo.

SALINE COUNTY.

Gore, A. E., Marshall, Mo.
Gore, D. C., Marshall, Mo.
Hall, John, Napton, Mo.
Hall, J. R., Marshall, Mo.
Harris, J. E., Marshall, Mo.
Harrison, William, Marshall, Mo.
Howard, W. A., Slater, Mo.
Jarvis, W. M., Slater, Mo.
McGuire, M. S., Arrow Rock, Mo.
Manning, D. T., Marshall, Mo.
Owen, J. H., Sweet Springs, Mo.
Richart, G. A., Blackburn, Mo.
Ringen, A. H., Loving, N. M.
Spotts, B. M., Marshall, Mo.
Walker, E. N., Grand Pass, Mo.

ST. CHARLES COUNTY.

Baltzer, H. F. W., Cottleville, Mo.
Bitter, Carl, St. Charles, Mo.
Corley, H. N., St. Paul, Mo.
Dunn, Frank, St. Peters, Mo.
Dyer, John, Warrenton, Mo.
Foreman, Charles O., Warrenton, Mo.
Gossow, A. A., St. Charles, Mo.
Hardin, T. L., St. Charles, Mo.
Jackson, T. J., St. Charles, Mo.
Jenkins, J. M., St. Peters, Mo.
Johnson, Samuel, St. Charles, Mo.
Morgner, Omar, St. Charles, Mo.
Mudd, J. R., St. Charles, Mo.
Stumberg, B. K., St. Charles, Mo.
Tainter, Frank J., St. Charles, Mo.
Wentker, B. P., St. Charles, Mo.

ST. CLAIR COUNTY.

Bell, W. E., Osceola, Mo.
Cline, W., Appleton City, Mo.
Landaker, C. L., Collins, Mo.
Moorehouse, Emma, Appleton City, Mo.
Seevers, Ruth, Osceola, Mo.
Smith, R. J., Appleton City, Mo.
Stratton, C. S., Roscoe, Mo.
Williams, D. B., Osceola, Mo.
Wright, Leo S., Lowry City, Mo.

ST. FRANCOIS COUNTY.

Appleberry, R., Leadwood, Mo.
Barber, Moses B., Flat River, Mo.
Brand, Eli Thomas, Bonne Terre, Mo.
Dounwing, B. R., Farmington, Mo.
English, J. H., Farmington, Mo.
Evans, A. L., Bonne Terre, Mo.
Fleming, C. R., Farmington, Mo.
Haney, T. L., Flat River, Mo.
Harrison, J. F., Farmington, Mo.
Keith, F. L., Flat River, Mo.
Marshall, Albert, Bonne Terre, Mo.
Poston, Harry P., Bonne Terre, Mo.
Reece, W. C., Elvins, Mo.
Robinson, B. J., Farmington, Mo.
Smith, O. A., Farmington, Mo.
Topping, M. H., Flat River, Mo.
Weber, F. S., Flat River, Mo.
Williams, G. B., Flat River, Mo.
Woods, S. Elliott, Bonne Terre, Mo.

STE. GENEVIEVE COUNTY.

Hertich, C. J., Ste. Genevieve, Mo.
Hinch, F. E., Ste. Genevieve, Mo.
Kerlagon, C. C., Ste. Genevieve, Mo.
Lanning, R. W., Ste. Genevieve, Mo.
Moore, C., St. Marys, Mo.
Morgansteen, H. J., Weingarten, Mo.
Rutledge, G. M., Ste. Genevieve, Mo.
Shirley J. M., St. Marys, Mo.
Vessells, F. M., Perryville, Mo.
Whiteside, E. E., River Aux Vases, Mo.
Wilkins, J. A., St. Marys, Mo.

ST. LOUIS COUNTY.

Armstrong, C. L., Webster Groves, Mo
Armstrong, J. H., Kirkwood, Mo.
Baker, Marshall, Webster Groves, Mo.
Berry, J. M., Webster Groves, Mo.
Bracy, Rolla, Wellston, Mo.
Brossard, Pierre M., Maplewood, Mo.
Cape, L. W., Maplewood, Mo.
Carter, H., Webster Groves, Mo.
Coleman, H. T., Pattonville, Mo.
Dalton, Martin, Fenton, Mo.
Denny, R. B., Eureka, Mo.
Douglass, J. T., Ferguson, Mo.
Dunnavant, C. A., Kirkwood, Mo.
Gallagher, J. C., Valley Park, Mo.
Greensfelder, H., Kirkwood, Mo.
Guibor, F. E., Maplewood, Mo.
Jansen, N. N., Florissant, Mo.
Koch, O. W., Ballwin, Mo.
Loving, S. R., Centaur, Mo.
Maisch, August, Manchester, Mo.
Metcalf, N. E., Maplewood, Mo.
Miles, H., Webster Groves, Mo.
Mills, R. W., Webster Groves, Mo.
Moore, R. D., Central, Mo.
O'Brien, L. F., Sappington, Mo.
Pfister, J., Creve Coeur, Mo.
Pitman, J., Kirkwood, Mo.
Randle, Harry T., Clayton, Mo.
Reynolds, S. H., Maplewood, Mo.
Suddarth, J. B., Clayton, Mo.
Townsend, W. H., Maplewood, Mo.
Will, Samuel J., Jefferson Barracks, Mo.
Wyer, H. G., Kirkwood, Mo.
Zuppann, Charles, Ballwin, Mo.

ST. LOUIS MEDICAL SOCIETY.

(All addresses St. Louis, Mo., unless otherwise stated.)

Abeken, Frederick W., 3531 S. Broadway.
Albrecht, Franklin H., Humboldt Bldg.
Alexander, Robert D., Mo. Pacific Hospital.
Allison, Nathaniel, Humboldt, Bldg.
Allyn, Asa B., 5004 Arsenal St.
Alt, Adolf, 316 Metropolitan Bldg.
Althans, Carl, 2024 S. Jefferson Ave.
Ambrose, Olney A., 5125 Bartmer Ave.
Ameiss, Frederick C., 236 Vanol Bldg.
Amerland, J. Henry, 2739 Chippewa St.
Amos, Newton W., 3001 Olive St.
Amyx, Robt. F., 1943 N. 11th St.
Apperson, Edwin L., Linmar Bldg.
Atkins, Henry S., City Insane Asylum.
Atkinson, Robert C., 3002 Lafayette Ave.
Auf der Heide, Wm.D., 3101 Arsenal St.
Axline, James T., 4143 N. Newstead Ave.
Ayars, Treston R., 3901 Easton Ave.
Babcock, Bert W., 3432 Chippewa St.
Babler, Edmund A., 4826 Delmar Ave.
Bailey, Fred Warren, Grand & Wyoming.
Baker, Richard W., 83 No. Raymond, Pasadena, Cal.
Baker, William M., 5424 Easton Ave.
Ball, James Moores, 4500 Olive St.
Ball, Otho F., 603 Metropolitan Bldg.
Barck, Carl, Humboldt Bldg.
Barclay, Robert, 3894 Washington Blvd.
Bardenheier, F. G. Adolph, 525 Frisco Bldg.
Barker, William S., 1101 Tyler Ave.
Barnes, Algernon S., 6312 Washington Ave.
Barnes, Algernon S., Jr., 210 Mo. Trust
Barnes, Percival C., 6312 Washington Ave.
Barnes, Rollin H., 219 Metropolitan Bldg. Bldg.
Baron, Jules, 3357 California Ave.
Barr, Clarence M., 2845a Manchester Ave
Barrington, Richard L., 208 Old Custom House.
Bartlett, Willard, 4257 Washington Blvd.
Bassett, Samuel T., 5735 Page Ave.
Bauduy, Jerome K., 340 N. Spring Av.
Bauer, Charles E., 2104 N. 14th St.
Baumgarten, Gustav, Humboldt Bldg.
Baumgarten, Walter, Humboldt Bldg.
Becker, William H., 4743 Labadie Ave.
Beckham, Genevieve S., 401 Century Bldg.
Bedal, Adelheid C., 3447 Lafayette Ave.
Behrens, Louis H., 301 Times Bldg.
Benker, Oscar H., 3618 S. Jefferson Ave.
Bennett, Floyd W., 2837 Park Ave.
Benson, Benjamin G., 2136 Benton St.
Bewig, Henry W., 802 Salisbury Ave.
Bishop, Frances L., 4271 Washington Ave.
Black, William D., 219 Metropolitan Bldg.
Blair, Vilray P., 405 Metropolitan Bldg.
Blattner, Fred O., 233 S. Jefferson Ave.
Bles, Victor A., 733 Metropolitan Bldg.
Bleyer, Adrien S., 705 N. Kingshighway.
Bliss, Malcolm A., Humboldt Bldg.
Bock, Arminius F., 1109 N. Grand Ave.
Boehm, Joseph L., 8th & Morgan Sts.
Boemler, George, 1922 St. Louis Ave.
Boggs, John D., 817 N. 18th St.
Boisliniere, Louis C., 3561 Olive St.
Bond, H. Wheeler, 17 Vandeventer Pl.
Bond, Young H., 325 N. Grand Ave.
Bonnot, Edmond, 3013a Park Ave.
Boogher, Frank K., Cor. High & Carr.
Boogher, J. Leland, 512 Mo. Trust Bldg.
Booth, David S., 426 Metropolitan Bldg.
Borck, Edward, 3928 N. 20th St.
Bosse, Edwin H., 1023 N. Grand Ave.
Bostick, William, Marquette Hotel.
Botts, McDowell, Frisco Hospital.
Bradley, Arthur H., 619 Metropolitan Bldg.
Bradley, John M., 2329 Montgomery St.
Brady, Jules M., 1467 Union Blvd.
Brandenburger, Louis A., 2900 Eads Ave.
Briggs, Guy Young, 2758 Armand Pl.
Brookes, Henry S., 3557 Lafayette Ave.
Brooks, Frederick C., Cor. Grand & Lindell Aves.
Broome, G. Wiley, 4911 McPherson Ave.
Brown, Arthur C. F., 2924 N. Taylor Ave.
Brown, John Young, 611 Metropolitan Bldg.
Bryan, William M. C., 18 Linmar Bldg.
Buchanan, James M., 721 N. Kingshighway.
Buhman, Rudolph, 5264 Page Ave.
Bunch, Rodney J., City Hospital.
Burdick, Jesse J., City Hospital.
Burford, Cyrus E., 955 Hamilton Ave.
Burnett, Edwin C., 548 Century Bldg.
Burns, Robert, Lister Bldg.
Butler, Louie P., Maryland & Euclid Aves.
Cadwallader, Isaac H., 919 N. Taylor Av.
Cale, George W., 12 Lennox Pl.
Calhoun, James G., 601 Metropolitan Bldg.
Calnane, John A., 5268 Maple Ave.
Cameron, Solon, 4552 Ashland Ave.
Campbell, Arthur V., 430 Globe Democrat Bldg.
Campbell, Given, 5165 Washington.
Campbell, Oliver H., 3542 Washington.
Cape, Leander W., 7396 Hazel Ave.
Caplan, Leo, Lister Bldg.
Carley, Harry D., 3332 Bell Ave.
Carman, Russel D., 4318 Olive St.
Carriere, Theodore L., 2128 St. Louis Ave
Carson, Gibbon W., 301 Century Bldg.
Carson, Norman B., Humboldt Bldg.
Chaddock, Charles G., Humboldt Bldg.
Charles, Joseph W., Humboldt Bldg.
Clapper, William L., 5004 Delmar Blvd.
Clark, E. Spencer, 3929 Ashland Ave.
Clarke, B. William, Vanol Bldg.
Clemens, James R., 416 Metropolitan Bldg.
Clopton, Malvern B., Humboldt Bldg.
Collasowitz, Albrecht, 1500 Chouteau Ave.
Connolly, Patrick D., 2556 N. Grand Ave.
Cook, George E., 1809 N. 9th St.
Cook, Jerome E., 4133 Laclede Ave.
Cooley, Edward L., 937 Hamilton Ave.
Cooney, Daniel C., 4205 Finney Ave.
Coughlin, William T., 403 Metropolitan Bldg.
Craddock, Frank, 3709 Olive St.
Crandall, George C., 4283 Olive St.
Creveling, H. Clay, Humboldt Bldg.
Crossen, Harry S., 308 Metropolitan Bldg.
Culp, Earl E., 2928 N. Vandeventer.
Cummings, Harry J., 219 Metropolitan Bldg.
Curtis, Arthur N., 4205 Virginia Ave.
Dalton, Henry C., 1308a N. Grand Ave.
Dames, Alphonse F., 401 Metropolitan Bldg.
Davis, Louis H., 1030 Morrison Ave.
Davis, Robert H., Lister Bldg.
Davis, Wheeler, 5013a Page Ave.
Dean, John McH., 420 Metropolitan Bldg.
DeMenil, Henry N., 1009 LeMay Ferry Rd.
Deutsch, Wm. S., 307 Lister Bldg.
De Vorkin, Moses I., 7th & Franklin Ave.
Dixon, Charles H., Lister Bldg.
Dorsett, E. Lee, 5070 Washington Ave.
Dorsett, Walter B., Linmar Bldg.
Dorsey, Benjamin L., 1422 N. Taylor Ave.
Doyle, William J., 2312 Washington Ave.
Drake Geo. S., Jr., 3634 Washington Ave.
Drechsler, Louis, 2701 Blair Ave.
Drescher, Frederick B., 3860 S. Broadway.
Dudley, George F., 4043 McPherson Ave.
Duncan, John H., Humboldt Bldg.
Dutzi, August, 325 Soulard St.
Dwyer, Michael J., 822 S. Ewing Ave.

Eberelein, Edwin W., 1208 Dillon St.
Ehrenfest, Hugo, 626 Metropolitan Bldg.
Ehrhardt, Rudolph T., 301 Century Bldg.
Eidmann, Walter P., 3160 Morganford Rd.
Elbrecht, Oscar, Female Hospital.
Elmer, Warren P., 346 N. Boyle Ave.
Engelbach, William, Humboldt Bldg.
Engelmann, Oscar B., 2752 Chipepwa St.
Engman, Martin F., Humboldt Bldg.
Epstein, Meyer J., 4046 McPherson Ave.
Erdhaus, Henry B., 1206 Tamm Ave.
Esselbruegge, Frederick C., 3740 N. 11th St.
Ewing, Arthur E., 5956 Cabanne Ave.
Ewing, Fayette C., 450 Century Bldg.
Eyermann, Edward H., 3136 S. Grand Av.
Faber, John E., 2133 S. Jefferson Ave.
Fahlen, Fred, Humboldt Bldg.
Falk, John C., 4568 Page Blvd.
Farmer, Percival J., 4393 W. Pine Blvd.
Farrar, John O'F., Lister Bldg.
Ferrel, Henry E., Grand & Franklin.
Fichtenkam, Harry L., 1933 Lynch St.
Fienup, Theodore, 1401 S. Broadway.
Fisch, Carl, 3212 Pine St.
Fischer, Juniattus A., 5724a Easton Ave.
Fischer, Waldemar E., Linmar Bldg.
Fischel, Walter, Humboldt Bldg.
Fischel, Washington E., Humboldt Bldg.
Fleming, Albert W., 4137 Manchester Av.
Ford, W. Hutson, Washington, D. C.
Forster, Davis, 1115 Union Ave.
Forster, Otto E., 513 Carleton Bldg.
Foster, William H., 3553 Caroline St.
Foster, William H., 4065 Chouteau Ave.
Fowler, Samuel R., 509 Carleton Bldg.
Fox, Sylvester D., Missouri Pacific Hospital.
Frankenthal, Maurice A., 4163 McPherson Ave.
Frazer, Hal S., 1111 Chouteau Ave.
Freudenstein, Wm. H., 306 S. Ewing Ave.
Freund, Newton M., 1440 S. 18th St.
Friedman, Jacob, 308 N. 6th St.
Frielingsdorf, Edward H., 2202 S. Broadway.
Fries, William A., 1544 S. Broadway.
Fronske, Martin G., 2819 Wisconsin Ave.
Fry, Frank R., Humboldt Bldg.
Fuchs, Walter H., 3202 Lafayette Ave.
Fuhrmann, Richard H., 3221 California Ave.
Fulton, Arthur L., 617 Chouteau Ave.
Funkhouser, Robert M., 4354 Olive St.
Furney, Elliot E., 3417 Morgan St.
Garstang, D. Buie, Linmar Bldg.
Gauen, George O., 1518 N. Grand Ave.
Gayler, Wenzel C., 4101 Laclede Ave.
Gehrung, Eugene C., 1515 Grand St., Denver, Colo.
Geitz, Henry A., 3126 Washington Ave.
Gellhorn, George, Linmar Bldg.
Gettys, Henry B., 2601 Washington Ave.
Glaser, Martin J., 1825 S. Jefferson Ave.
Glasgow, Frank A., 3894 Washington Av.
Glennon, William P., 3603 Lindell Blvd.
Godfrey, George B., 900 S. 4th St.
Goebel, Arthur, 3508 Manchester Ave.
Goodman, Daniel C., 309 Century Bldg.
Goodwin, Edward J., 603 Metropolitan Bldg
Goldstein, Max A., 3858 Westminster Pl.
Gordon, Frank N., 1542 Mississippi Ave.
Gorin, M. George, 4225 W. Belle Pl.
Gradwohl, Rutherford B. H., 223 Victoria Bldg.
Graham, Isaac E., 4577 Page Ave.
Grant, John M., 536 N. Taylor Ave.
Graul, Henry P., 3353 Nebraska Ave.
Graul, John D., 3512 Crittenden St.
Graul, Robert E., 2905 Cherokee St.
Graves, Spencer C., Lister Bldg.
Graves, William W., 727 Metropolitan Bldg.
Gray, Isabel S., 5222a Delmar Ave.
Gray, Robert Q., Linmar Bldg.
Green, John, Jr., 625 Metropolitan Bldg.
Greer, Edward O., 2750 Park Ave.
Greiner, Theodore, 5443 Easton Ave.
Griffin, Patrick H., 4504 Easton Ave.
Grindon, Joseph, 3894 Washington Blvd.
Gross, Julius H., 306 Oriel Bldg.
Grosse, Louis W., 3665 Juniata St.
Grote, William F., 1225 Sullivan Ave.
Guggenheim, Louis K., 724 Metropolitan Bldg.
Guhman, Charles N., 4298 Finney Ave.
Guhman, John O., 4531 Washington Ave.
Guhman, Matthew G., 3505 N. Jefferson Ave.
Gundlach, Arthur, 2202 University St.
Haase, Moses E., 4263 W. Pine Blvd.
Habermaas, Albert, 3817 Cleveland Ave.
Hagerty, Meade E., Social Service Hospital.
Hall, Fred B., 204 Metropolitan Bldg.
Hall, Harry R., 5894 Cates Ave.
Hall, W. Antoine, 1597 Tower Grove Ave.
Hall, Willis, Humboldt Bldg.
Hallam, John C., 301 Mermod-Jaccard Bldg.
Hamel, A. H., 3519 Arsenal St.
Hangen, William M., 1050 Century Bldg.
Hanser, Herman A., 3651 Delmar Ave.
Hardaway, William A., 310 Lister Bldg.
Hardy, Joseph, 7620 S. Broadway.
Hardy, Wm. F., 2302 S. Jefferson.
Harlan, Warren E., 1719 Market St.
Harmann, Martin F., 3441 N. 9th St.
Harnisch, Henry J., 2407 S. 18th St.
Harral, Walter E., 6201 Etzel Ave.
Harrell, H. Jackson, 509 Metropolitan Bldg.
Harris, Downey L., 1426 Carroll St.
Harris, Rufus C., 1303 N. Garrison Ave.
Harscher, Andrew, 3559 Marine Ave.
Hartmann, Jacob A., 1228 S. Broadway.
Hartwig, Otto A., 219 N. 14th St.
Hauck, Eugene F., 1638 S. Jefferson Ave.
Hauck, Louis, 3555a Arsenal St.
Hawley, Nelson J., 3864 Cleveland Ave.
Hawley, Thomas S., 3065 Easton Ave.
Hempelmann, Louis H., 626 Metropolitan Bldg.
Henckler, Emil H., 3500 N. 14th St.
Henderson, Frank L., Humboldt Bldg.
Henke, August F., 2210 Howard St.
Hennerich, Joseph P., 2919 S. Broadway.
Henske, Andrew A., 1504 St. Louis Ave.
Henske, Andrew C., 3903 Easton Ave.
Herchenroeder, Louis, 2904 Park Ave.
Hermann, Henry W., 3654 Delmar Ave.
Herrick, Harold C., 5605a Easton Ave.
Heuer, Phillip J., Humboldt Bldg.
Heyer, Charles, 910 N. 10th St.
Hickman, Henry R., 3351 Jefferson Ave.
Higbee, Edward H., Jr., 416 Metropolitan Bldg.
Hill, Roland, 4605 Delmar Ave.
Hinchey, Frank, Humboldt Bldg.
Hirschi, William T., 2306 St. Louis Ave.
Hochdoefer, Daniel F., 3410 California Ave.
Hoeffer, John P., 2120 S. Grand Ave.
Hoffmann, Philip, 3337 Washington Ave.
Hoge, Moses W., 601 Metropolitan Bldg.
Holdenried, William E., 4507 Virginia Ave.
Holman, Richard S., 3951 Delmar Ave.
Holtgrewe, Frederick W., 1601 Blair Ave.
Homan, George, 323 Odd Fellows Bldg.
Hopkins, Milton J., 3558 Lindell Bl.
Hopkins, Ross, 1055 Hamilton Ave.
Hopkins, Thomas A., 319 Century Bldg.
Horwitz, Alexander E., 509 Metropolitan Bldg.
Horwitz, Maximillian R., 353 Century Bldg.
Houwink, Joseph J., 3505 Franklin Ave.
Huelsmann, Leo C., 2504 N. 14th St.
Hughes, Charles H., 518 Metropolitan Bldg.

Hughes, Marc Ray, 518 Metropolitan Bldg.
Humphrey, J. Harrison, 212 Ozark Bldg.
Hurford, Phelps G., 4196a Manchester Av.
Hyndman, Charles E., 4661 Maryland Av.
Hypes Benjamin M., 2005 Victor St.
Ilg, Theodore, 3150 South Grand Ave.
Iralson, Abraham, 6200 Columbia Ave.
Jacobs, Max W., 353 Century Bldg.
Jacobson, Henry, 301 Mo. Trust Bldg
Jacobson, Jacob, 5598 Bartmer Ave.
James, John A. J., 1006 Carleton Bldg.
Jarvis, N. W., 3616a Garfield Ave.
Jennings, J. Ellis, 508 Carleton Bldg.
Jennings, M. Dwight, 4101 Washington Ave.
Johnson, E. Horace, 2433 N. Grand Ave.
Johnson, Frank P., 3744 Finney Ave.
Johnson, Harry McC., Linmar Bldg.
Jonas, Ernst, 465 N. Taylor Ave.
Jones, Meredith D., 4068 Washington Bl.
Jungk, Carl W., 2249 S. Jefferson Ave.
Kane, R. Emmet, Humboldt Bldg.
Keber, John B., 127 Garden St., Prescott, Ariz.
Keeble, Robert R., 2747 Lafayette Ave.
Keehn, Gustav A., 2702 N. Grand Ave.
Kelley, Isaac D., Jr., 3858 Westminster Pl.
Kennedy, Walter U., 1121 Cass Ave.
Kern, John H., 3916 N. Grand Ave.
Kerwin, William, 1814 Locust St.
Kessler, Edward H., 3446 Shenandoah Av.
Kieffer, Alonzo R., 4268 W. Belle Pl.
Kier, William F., 3609 Lindell Blvd.
Kimball, Arthur C., Grand & Franklin Aves.
Kimbrough, John S., Humboldt Bldg.
Kirchner, Walter C. G., City Hospital.
Klein, Sebastian, 1921 N. Grand Ave.
Klenk, Charles L., 2105 S. Broadway.
Klie, Constantine M. T., 2429 Wren Ave.
Klie, G. H. Charles, 5100 N. Broadway.
Klinefelter, Marion L., 704 N. Taylor Ave.
Klokke, W. Emil, 1004 Century Bldg.
Koenig, George W., 740 S. 4th St.
Koetter, Albert F., 1023 N. Grand Ave.
Kolbenheyer, Frederick, 2006 Lafayette Ave.
Kollme, Otto, 2354 Park Ave.
Koontz, Carl J., 793 Aubert Ave.
Konzelmann, Paul R., 2500 S. Jefferson Ave.
Kouri, Martin F., 1041 S. Taylor Ave.
Krebs, Franz J. V., 1906 St. Louis Ave.
Krebs, George A., 2709 S. 11th St.
Krenning, William G., 4041a St. Louis Ave.
Kroeger, George B., 3622 Garfield Ave.
Krug, Frederick H., 2300 St. Louis Ave.
Kuhlmann, Frederick C. E., 2135 St. Louis Ave.
Kuhn, Daniel, 1746 Chouteau Ave.
Kurtzeborn, Edwin E., 4909 McPherson Ave.
Langan, William J., Plymouth and Goodfellow Aves.
Lare, Harry S. P., 4644 Morgan St.
Larew, John T., Olivia Bldg.
Lawrence, William Scott, 1913 N. Grand Ave.
Leavy, Charles A., 426 Metropolitan Bldg.
Leavy, John A., 4340 Morgan St.
Lebrecht, John C., 1509 Chouteau Ave.
Lee, Elbert J., 621 Wright Bldg.
Leggat, Abram C., 720 Metropolitan Bldg.
Leighton, William E., 346 N. Boyle Ave.
Lemen, Joseph R., Vanol Bldg.
Levy, Aaron, 4500 Olive St.
Lewis, Bransford, 1050 Century Bldg.
Lewis, Charles, 1312 Monroe Ave.
Lightner, Calvin R., 716 Metropolitan Bldg.
Link, Joseph J., 212 Metropolitan Bldg.
Lippe, Meyer J., 5349 Maple Ave.
Lipsitz, Samuel T., 4315 Page Ave.
Loeb, Clarence, Humboldt Bldg.
Loeb, Hanau W., Humboldt Bldg.
Loeb, Virgil, Humboldt Bldg.
Loewenstein, Harry M., 2615 N. Taylor Ave.
Loftus, William V., 5904 Minerva Ave.
Long, Joseph M., 513 N. Sarah St.
Luedde, William H., 314 Metropolitan Bldg.
Luhn, Walter D., 3414 Oregon Ave.
Lund, Horluf G., 1050 Century Bldg.
Luton, Lionel S., 1023 N. Grand Ave.
Lutz, Frank J., 1630 S. Grand Ave.
Lyman, Harry W., 802 Carleton Bldg.
Lyon, George E., 732 Planters Hotel.
Lyon, Hartwell N., Humboldt Bldg.
McAmis, L. Clifford, Humboldt Bldg.
McBratney, Emmett W., 7619 South Broadway.
McCandless, Wm. A., 720 Metropolitan Bldg.
McClure, James, 1704 Market St.
McConnell, Guthrie, 4175 Washington Av.
McGann, Peter J., 4830 Easton Ave.
McKay, Harvey S., 3500 Pestalozzi St.
McLean, Mary H., 4339 Delmar Ave.
McLemore, Tipton, 205 Humboldt Bldg.
MacDonald, John W., 1111 N. Grand Ave.
Marchildon, John W., Laclede & Vandeventer Aves.
Mardorf, Wm. C., 3634 Shenandoah Ave.
Marks, Heine, Marina Bldg.
Marquardt, Arthur V., 522 Century Bldg.
Martin, Charles P., 4111 N. Grand Ave.
Martin, Tilly A., 426 Metropolitan Bldg.
Marx, Ella, 4269 Delmar Ave.
Max, Clarence O. C., 515 Metropolitan Bldg.
May, Albert, 1803 Morgan St.
Mayes, Joseph F., 1801 Olive St.
Meinhard, Joseph, 921 Chouteau Ave.
Meisenbach, A. Edward, 2343 Olive St.
Meisenbach, Albert H., 2618 S. Grand Ave.
Meng, Edwin R., 728 N. Taylor Ave.
Menkhaus, John B., 4607 Easton Ave.
Merz, Adolph, 3404 Cherokee St.
Muetze, Henry, 3201 Shenandoah Ave.
Meyer, Alfred H., 4624 Virginia Ave.
Meyer, Harry H., 1823 N. Taylor Ave.
Meyer, Jesse, 3894 Washington Blvd.
Millar, Reginald C. M., 4344 Easton Ave.
Miller, H. Edward, 2257 Missouri Ave.
Miller, John J., 4439 Morgan St.
Miller, Robert F., 318 Frisco Bldg.
Miller, W. Jackson, 307 Humboldt Bldg.
Missimore, Louis E., 4869 Page Ave.
Moeller, Carl E., 1419 S. 7th St.
Mook, William H., Humboldt Bldg.
Moore, Bernard W., 3634 Washington Ave.
Moore, Harry M., Linmar Bldg.
Moore, John W., 906 Pine St.
Moore, Orbun T., 1272 Hamilton Ave.
Moore, Sherwood, 3634 Washington Ave.
Moore, William G., 86 Vandeventer Pl.
Morfit, John C., Humboldt Bldg.
Morrell, M. Pinckney, 3693 Olive.
Morris, Christopher, 2945 Franklin Ave.
Mosby, Charles V., 713 Metropolitan Bldg.
Mudd, Harvey G., Humboldt Bldg.
Mudd, Leo C., 5579 Easton Ave.
Mueller, Ernst H., 3548 Arsenal St.
Mueller, George L., 1125 Madison St.
Munsch, Augustin P., 4637 Easton Ave.
Munsen, Charles L., 731 S. Broadway.
Murphy, John C., 4263 Morgan St.
Murphy, R. Brent, 6120 Victoria St.
Myer, Max W., 4439 Washington Blvd.
Myerdick, Albert H., 4116a Lee av
Nash, W. Hampton, 405 Commercial Bldg.
Nelson, Edwin M., 965 Hamilton Ave.
Neuhoff, Fritz, 1318 Chouteau Ave.
Neville, Eugene J., Linmar Bldg.
Newman, Louis E., Humboldt Bldg.
Newman, Samuel E., 4323 Laclede Ave.
Nicholson ,Clarence M., 4500 Olive St.
Nicks, Harry G., 933a Goodfellow Ave.
Niebruegge, Henry J., 2003 Salisbury St.

Nietert, Herman L., 522 Century Bldg.
Norris, Edwin J., 4223 Russell Ave.
North, Emmett P., 2124 S. Grand Ave.
North, William R., 86 Vandeventer Pl.
Oatman, Louis J., 509 Metropolitan Bldg.
Oehler, Emanuel F., 4161a St. Louis Ave.
Ogle, Oliver L., 2625 St. Louis Ave.
O'Keefe, James J., 1011 N. Leffingwell Ave.
O'Reilly, Archer, 423 Metropolitan Bldg.
O'Reilley, Robert J. 1107 N. Grand Ave.
Orth, Carl, 1437 Penrose St.
Outten, Warren B., Mo. Pacific Hospital.
Owen, William C., 3846 Folsom Ave.
Padberg, Louis R., 3509 Arsenal St.
Paine, George F., 802 Carleton Bldg.
Park, George M., 5352 Page Ave.
Parker, Chas. W., 3502 N. Jefferson Ave.
Parker, Frederick P., 1423 Euclid Ave.
Parman, David R., 4473 Delmar Ave.
Parsons, Scott E., 4052 Washington Ave.
Patton, Fred W., 5617 Maple Ave.
Pfingsten, C. Frederick, 208 Lister Bldg.
Phillips, George M., 406 Commercial Bldg.
Pierce, Harry M., 4046 N. Grand Ave.
Pitzman, Marsh, 1900 S. Compton Ave.
Pohlman, Frederick L., 2202 N. Market St.
Poignee, Frank P., 917 Hickory St.
Pollmann, Ludwig P., 2002 St. Louis Ave.
Pollmann, Walter H., 2002 St. Louis Ave.
Pope, Charles H., 1557 S. Jefferson Ave.
Pope, Sherman, 2959 Gamble St.
Porter, William, 3886 Washington Ave.
Porterfield, Elmo P., Humboldt Bldg.
Post, M. Hayward, 5371 Waterman Ave.
Potts, Jerome D., 518 Metropolitan Bldg.
Powell, Charles H., 804 Victoria Bldg.
Powell, Ignatius W., N. E. Cor. Grand & Easton Aves.
Prinz, Herman, 602 Century Bldg.
Raithel, G. Herman, 2901 St. Louis Ave.
Rassieur, Louis, 315 Metropolitan Bldg.
Ravold, Amand, 1208 Chemical Bldg.
Reber, Lee W., 1726 S. 12th St.
Reber, Robert L., 1837 S. 11th St.
Reder, Francis L., 4629 Cook Ave.
Reed, Elizabeth B., Lister Bldg.
Rehfeldt, Charles S., 2255 S. Jefferson Ave.
Reim, Hugo W., 3904 Folsom Ave.
Reinders, Otto W., Mercantile Tr. Co.
Reinhardt, Gustav H., Address unknown.
Remme, Chas. T., 400 S. 14th St.
Rice, D. Frank, 5145 Cabanne Ave.
Richter, Edward, 7310 Michigan Ave.
Richter, George, 3538 Humphrey St.
Riesmeyer, Louis T., 2838 Lafayette Ave.
Riley, Cassius M., Alton, Ill.
Riley, Ralph D., 4641 Washington Ave.
Ring, Frank R., 619 Chemical Bldg.
Robertson, William M., Humboldt Bldg.
Robinson, Anselm C., 5083 Westminster Pl.
Rohlfing, Arthur H., 3543 California Ave.
Rohlfing, Charles G., 3803 Russell Ave.
Rohlfing, Henry A. L., 2602 Laclede Ave
Rohlfing, Louis C., 3521 Dodier St.
Rosebrough, Frank H., 928 N. Grand Ave.
Rothman, Paul N., 1446 N. 11th St.
Rothstein, Hugo N., 3309 S. 13th St.
Rotter, Charles E., 1910 Arsenal St.
Royston, Grandison D., 611 N. Jefferson Ave.
Ruddell, George W., 926 Academy Ave.
Rule, John B., Olivia Bldg.
Rumbold Frank M., Jefferson City, Mo.
Rush, William H., 3540 Washington Ave.
Rusk, Elizabeth M., 4241 Delmar Ave.
Russler, Jacob J., 2620 S. Jefferson Ave
Sahlender, Otto L., 321 N. Grand Ave.
Sale, Llewellyn, Humboldt Bldg.
Salter, John C., 3634 Washington Ave.
Sante, August H., 3141 Laclede Ave.
Sanperl, Harry, 465 N. Taylor Ave.
Sauer, Willam E., Humboldt Bldg.
Saunders, Edward W., 3003 Lafayette Ave.
Saxl, Ernst, 212 Metropolitan Bldg.
Say, William J., 14 Thornby Pl.
Schaub, Charles W., 2302 Salisbury St.
Schery, Charles W., 917 Allen St.
Scheele, Matthias H., Lister Bldg.
Schisler, Edwin J., Jefferson & Russell Aves.
Schlossstein, Adolph G., 3153 Longfellow Ave.
Schlueter, Robert E., 909 Park Ave.
Schmallhorst, Daniel E., 8212 N. Broadway.
Schmidt, William Carl, 2417 S. Broadway.
Scholz, Paul C., 3203 Franklin Ave.
Scholz, Phillip, 3803 N. 14th St.
Scholz, Roy P., 619 Metropolitan Bldg.
Schuchat, W. Louis, 2200 Chouteau Ave.
Schulte, Francis A., 3626 North Market St.
Schulz, Edward, 1716 S. 7th St.
Schulz, Henry W., 2603 Cherokee St.
Schwab, Sidney I., Humboldt Bldg.
Schwarz, Henry, 440 N. Newstead Ave.
Schwarze, August, 2921 S. Jefferson Ave.
Scott, Clive D., 356 Century Bldg.
Scott, Elijah A., 1700A S. Broadway.
Scott, James M., 3313 Morgan St.
Seelig, Major G., Humboldt Bldg.
Semple, Nathaniel M., Humboldt Bldg
Senseney, Eugene T., Lister Bldg.
Shankland, J. Wilbert, 21 Marina Bldg
Shanklin, Benjamin, 1514 S. Jefferson Ave.
Shapleigh, John P., Humboldt Bldg.
Sharpe, Norvelle Wallace, 3520 Lucas Ave.
Shattinger, Charles, 2924 S. Grand Ave.
Sheahan, Edwin L., 3637 Finney Ave.
Sheets, Martin E., 4359 Chouteau Ave.
Shoemaker, John F., 1006 Carleton Bldg.
Shoemaker, William A., 1006 Carleton Bldg.
Shutt, Cleveland H., City Hospital.
Sieving, Gustav W., 3601 S. Jefferson Ave
Sieving, Henry J. C., 1125 St. Louis Ave.
Simon, Frederick C., 1835 Cass Ave.
Singer, Jacob J., 212 Ozark Bldg.
Skrainka, Philip, 603 Metropolitan Bldg.
Sluder, Greenfield, 3542 Washington Ave
Smith, Carroll, Humboldt Bldg.
Smith, Ellsworth, Jr., Humboldt Bldg.
Smith, John Campbell, Humboldt Bldg.
Smith, J. Atkinson, 4130 St. Louis Ave
Soper, Horace W., 626 Metropolitan Bldg
Spain, Kate C., 700 Carleton Bldg.
Spencer, Horatio N., 2723 Washington Ave.
Spencer, Selden, 2723 Washington Ave.
Spinzig, Felix, 937 Park Ave.
Spitze, Edward C., 311 Metropolitan Bldg.
Staats, V. Cecil, Lister Bldg.
Stauffer, William H., Humboldt Bldg.
Steedman, Isaiah G. W., 4200 Washington Ave.
Steele, Aaron J., 5871 Maple Ave.
Steiner, Albert S., 1507 Destrehan St.
Stevens, Charles D., 1749 S. Grand Ave.
Stewart, Floyd, 1524 Chemical Bldg.
Stewart, James, 4740 Washington Blvd.
Stewart, John, 4909 St. Louis Ave.
Stocking, Lyman C., 1304 Academy Ave
Stockwell, Benjamin E., 2345 S. Broadway.
Straus, Leon, 805 N. Grand Ave.
Streutker, Charles E. F., 3828 S. Broadway.
Sturhahn, Ferdinand O., 3519 Hebert St
Suggett, Orril L., 423 Commercial Bldg
Summa, Henry H., 5703 Florissant Ave.
Summa, Hugo, 410 Metropolitan Bldg.
Sutter, John H., 3208 N. 19th St.
Sutter, Otto, 355 Century Bldg.
Swahlen, Percy H., 415 Metropolitan Bldg
Tabacnic, Maxwell, 2903 Thomas St.
Talbott, Hudson, 426 Metropolitan Bldg.
Tanquary, James H., 930 Belt Ave.

Taussig, Albert E., 3519 Washington Ave.
Taussig, Frederick J., 727 Metropolitan Bldg.
Temm, Louis N., 3516 N. Market St.
Terry, Robert J. ,1806 Locust St.
Thierry, Charles W., 501 Metropolitan Bldg.
Thompson, Ralph L., 1402 S. Grand Ave.
Thumser, Larenz, 1808 Victor St.
Thurmon, E. J., 2805 S. Kingshighway.
Thurmon, Josiah D., 6758 Page Ave.
Tiedemann, Ernest F., 3635 Cleveland Av.
Todd, D. Clay, 1231 N. Taylor Ave.
Tooker, Charles W., 416 Metropolitan Bldg.
Torrance, Loyal B., Deaconess Hospital.
Tuholske, Herman, 465 N. Taylor Ave.
Tuholske, Moritz C., 4104A Easton Ave.
Tupper, Paul Y., Linmar Bldg.
Tuttle, George M., 4519 Washington Ave.
Ude, Waldemar, 3546 Gravois Ave.
Urban, Emanuel T., 3156 Park Ave.
Van Hoefen, Samuel, 8408 Hall's Ferry Rd.
Van Hoefen, Siegfried A., 8313 Hall's Ferry Rd.
Valle, Jules F., 4955 Maryland Ave.
Vasterling, Paul F., Mo. Pacific Hospital.
Vaughan, John W., Euclid & Washington Aves.
Viedt, Edward J., 6901 S. Broadway.
Vinyard, Paul, 3901 Park Ave.
Vitt, Rudolph S., 3924 S. Broadway.
Vogler, Alfred T., 1523 Penrose St.
Vogt, Gustav W., 4977 Lotus Ave.
Vogt, William H., 723 Metropolitan Bldg.
Von der Au, Otto L., 2306 S. 13th St.
Vosburgh, Charles A., 518 Metropolitan Bldg.
Wagers, Arthur J., 3673 W. Pine Blvd.
Wall, Otta A., 4532 Virginia Ave.
Wall, Otto A., Jr., 3122 S. Grand Ave.
Walson, Charles M., 3883 Hartford St.
Ward, Edgar P., 2831 Shenandoah Ave.
Webb, William, 5575 Delmar Ave.
Weinsberg, Charles H., 1531 S. 11th St.
Weisberg, Julius H., 2015 Russell Ave.
Weiss, William, Mo. Pacific Hospital.
Weiterer, Herman L., 2728 N. 11th St.
Wenger, Oliver C., 2202 S. Broadway.
Wesseler, Frederick W., 2819 S. 13th St.
Westbrook, George W., 3605 Lindell Blvd.
Westerman, Clarence M., 1343 Syndicate Trust Bldg.
Whelpley, Henry M., 2342 Albion Pl.
White, Charles A., 420 Holland Bldg.
Wichmann, Herman L., 3229 S. Jefferson Ave.
Wiener, Meyer, 500 Carleton Bldg.
Wild, Frank, 3600 N. 14th St.
Wilkes, Benjamin, 720 Metropolitan Bldg
Williams, Abram D., Hotel Deckard, Bedford, Ind.
Williamson, J. William, Roswell, N. Mex.
Williamson, Llewellyn, 611 Metropolitan Bldg.
Wilson, Allen, 1514 Wagoner Pl.
Wilson, Alvah M., Humboldt Bldg.
Wilson, Charles A., 635 Century Bldg.
Wilson, Robert E., 818 3d Nat. Bank Bldg
Winter, William O., 3630 S. Broadway.
Wobus, Reinhard E., 1105 Salisbury St
Wolf, Alexander E., 4500 Olive St.
Wolter, Otto L., 1446 Blair Ave.
Wood, William E., 403 Century Bldg.
Woodruff, Frederick E., 2925 Washington Ave.
Woolsey, Ross A., Frisco Hospital.
Wyche, Charles, Humboldt Bldg.
Yost, Walter B., 5308 Vernon Ave.
Young, Anthony O., Vanol Bldg.
Young, Henry McClure, City Hospital.
Youngman, J. Andrew, 5817 Gravois Ave.
Zahorsky, John, 1460 S. Grand Ave.

SCHUYLER COUNTY.

Bridges, J. B., Downing, Mo.
Drake, A. J., Downing, Mo.
Gerwig, H. E., Downing, Mo.
Keller, J. H., Glenwood, Mo.
Mitchell, E. J., Lancaster, Mo.
Zeber, W. H., Queen City, Mo.

SCOTLAND COUNTY.

Alexander, W. E., Memphis, Mo.
Baker, P. M., Arbela, Mo.
Bondurant, W. E. H., Memphis, Mo.
Foster, F. G., Memphis, Mo.
Parrish, E. E., Memphis, Mo.
Pile, O. F., Memphis, Mo.
Platter, A. E., Memphis, Mo.

SCOTT COUNTY.

Atkisson, J. A., Morehouse, Mo.
Blockledge, H. T., Commerce, Mo.
Cannon, G. S., Fornfelt, Mo.
Cline, J. A., Vanduser, Mo.
Frazer, T. F., Commerce, Mo.
Frazer, T. R., Commerce, Mo.
Harris, W. E., Oran, Mo.
Haw, U. P., Benton, Mo.
Hutton, W. S., Fornfelt, Mo.
McCabe, R. S., Chaffee, Mo.
Malcolm, P. M., Sikeston, Mo.
Mayfield, L. S., Illmo, Mo.
Milem, J. A., Sikeston, Mo.
Ogilvie, Fred, Blodgett, Mo.
Rodenmeyer, Henry, Kelso, Mo.
Sparks, R. A., Blodgett, Mo.
Tate, P. S., Morely, Mo.
Valle, Jules F., 4955 Maryland Ave.
Wade, S. J., Benton, Mo.
Wescott, W. H., Oran, Mo.

SHELBY COUNTY.

Carson, William, Shelbyville, Mo.
Chapman, Charles, Shelbina, Mo.
Dallas, L. W., Hunnewell, Mo.
Daniel, J. R., Clarence, Mo.
Delaney, G., Emden, Mo.
Dobson, D. A., Hunnewell, Mo.
Ferguson, A. D., Hunnewell, Mo.
Nickell, L. O., Clarence, Mo.
Owen, William, Shelbina, Mo.
Pollard, H. M., Shelbina, Mo.
Read, N. M., Clarence, Mo.
Roy, F. K., Clarence, Mo.
Sanders, W. S., Clarence, Mo.
Singleton, D. E., Fulton, Mo.
Smith, J. D., Shelbina, Mo.
Smith, L. L., Bethel, Mo.
Stark, E. B., Hagers Grove, Mo.
Vaughn, H. C., Shelbina, Mo.
White, A. T., Lakenan, Mo.
Willis, H. T., Shelbina, Mo.
Wood, A. G., Lentner, Mo.
Wood, A. M., Lentner, Mo.

STODDARD COUNTY.

Allen, T. G., Bernie, Mo.
Ashley, John, Bloomfield, Mo.
Brandon, J. P., Essex, Mo.
Caldwell, W. C., Essex, Mo.
Cline, B. J., Essex, Mo.
Douglass, J. H., Dexter, Mo.
Ford, W. J., Leora, Mo.
Huggins, U. L., Frisco, Mo.
Kerr, W. B., Dudley, Mo.
La Rue, H., Dexter, Mo.
Slaughter, J. L., Dexter, Mo.
Tiller, J. A., Bloomfield, Mo.

Vernon, George W., Dexter, Mo.
Walters, Charles, Dexter, Mo.
West, Samuel, Idalia, Mo.

SULLIVAN COUNTY.

Garner, R. L., Pollock, Mo.
Herrington, Warner, Green City, Mo.
Montgomery, J. S., Milan, Mo.
Polle, A. R., Milan, Mo.
Porter, E. S., Milan, Mo.
Reid, Ed. W., Humphreys, Mo.
Roberts, I. M., Green City, Mo.
Roberts, J. C., Boynton, Mo.
Shriver, C. F., Harris, Mo.
Weidner, A., Newton, Mo.
Wilson, C. S., Des Moines, Iowa.
Witter, W. L. M., Milan, Mo.

TANEY COUNTY.

Baldwin, F. V., Forsyth, Mo.
Burdett, G. W., Branson, Mo.
Humphreys, T. H., Kissee Mills, Mo.
Irwin, R. M., Gretna, Mo.
McIntyre, Elizabeth, Branson, Mo.
Mitchell, Guy S., Forsyth, Mo.

VERNON COUNTY.

Adams, W. T., Richards, Mo.
Altham, A. G., Metz, Mo.
Ammerman, I. W., Nevada, Mo.
Anderson, Finis L., Nevada, Mo.
Bohannon, W. T., Nevada, Mo.
Buchanan, J. Robert, Nevada, Mo.
Callaway, L. H., Nevada, Mo.
Chambers, J. C., Schell City, Mo.
Churchell, E. R., Nevada, Mo.
Colson, J. R., Schell City, Mo.
Craig, T. B., Nevada, Mo.
Davis, C. B., Walker, Mo.
Dulin, E. A., Nevada, Mo.
Farrington, O. P., Moundville, Mo.
Henderson, R. C., Stotesbury, Mo.
Jarvis, H. C., Schell City, Mo.
Meade, Samuel T., Nevada, Mo.
Moore, C. H., Walker, Mo.
Musser, C. W., Horton, Mo.
Popplewell, W. H., Sheldon, Mo.
Primm, W. B., Deerfield, Mo.
Robinson, J. F., Nevada, Mo.
Royston, W. P., Harwood, Mo.
Truex, J. L., Milo, Mo.
Williams, V. O., Nevada, Mo.
Wilson, G. C., Nevada, Mo.
Yater, J. M., Nevada, Mo.

WEBSTER COUNTY.

Atkins, W. A., Rogersville, Mo.
Bailey, E. M., Elkland, Mo.
Beatie, W. R., Marshfield, Mo.
Bollinger, W. H., Seymour, Mo.
Bruce, John R., Marshfield, Mo.
Bruton, T. S., Seymour, Mo.
Cantwell, B. T., Rogersville, Mo.
Good, J. W., Fordland, Mo.
Highfill, M., Marshfield, Mo.
James, E. F., Marshfield, Mo.
McHaffie, C. H., Rogersville, Mo.
Mott, J. R., Grovespring, Mo.
Rabenau, W. J., Fordland, Mo.
Summers, W. R., Niangua, Mo.
Trimble, Eli, Seymour, Mo.
Williams, D. A., Niangua, Mo.
Williams, S. O. H., Fordland, Mo.

WORTH COUNTY.

Andrews, John, Grant City, Mo.
Dove, J. D. F., Allendale, Mo.
Forbis, C. F., Denver, Mo.
Mills, O. P. M., Grant City, Mo.
Phipps, J. K., Grant City, Mo.
Robertson, W. A., Allendale, Mo.

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ORIGINAL ARTICLES

THE RADICAL CURE OF HERNIAS SEEN BY THE COUNTRY SURGEON.*

By C. H. Suddarth, M. D., Smithville, Mo.

A quarter of a century ago, the results from the radical operations for the cure of hernia, even in the large hospitals, were attended with so many failures that the operation was practically abandoned, excepting only in cases of strangulated hernia. With the vast improvement of modern methods, operation is now recommended by all intelligent physicians, intead of wearing for life the unreliable truss. We regret that some of our standard text books on surgery continue to waste time and space in the description of the unreliable and dangerous truss, which offers no hope of cure. The general practitioner, particularly he who is doing surgery in the rural districts, ought to be sufficiently educated in anatomy and the technic of this operation to know of the brilliant results obtained and to perform the operation himself, or recommend it, instead of being satisfied with results of the truss.

Where this operation has been performed, statistics show the remarkably low mortality of .5%, or one death in five hundred. We are very much encouraged in operating, by statistics from reliable sources. Coley reports 1185 operations by the Bassini method with one per cent. failure. Eisendrath, of Chicago, reports one per cent. not cured. Many other operators report just as favorably. With such a low percentage of mortality and such a high percentage of cure, why should we hesitate to recommend the operation, when hernia, to say nothing of its unpleas-

*Read in the Surgical Section, Fifty-second Annual Meeting, Missouri State Medical Association, Jefferson City, May, 1909.

antness, debars men from military service, athletic enjoyments or physical labor, and by its large increase in size renders the individual incapacitated for any business, to say nothing of the constant danger of strangulation?

The operative methods previous to 1890, made no effort to improve the anatomical defects of nature. In 1890, Bassini and Halstead revolutionized the operation for inguinal hernia. Bassini transplanted the cord above the internal oblique and transversalis muscles, covering it with the aponeurosis of the external oblique. Halstead went one step farther by transplanting the cord above the external oblique, leaving it covered by skin and superficial fascia. Furguson, after high ligation of the sac, closed the canal without transplanting the cord. Anders split the aponeurosis of the external oblique, bringing the lower or innermost portion beneath the cord, and the external portion above it, forming a new canal.

The success of the operation depends upon a thorough knowledge of the anatomy of the part, the function of each tissue and the forces that may act in driving the intestines and omentum into this canal. The complete removal of the sac and return of the stump to the abdominal cavity by closing the internal abdominal ring close about the cord, and by using a strong muscular tissue to act as a valve to close the opening, completes the operation. This forms a new inguinal canal, changing the point of resistance.

This operation can be safely performed in the ordinary home provided the laws of asepsis are rigidly enforced. The operation should be done immediately upon detecting the hernia, and a truss never recommended as a compromise. If there should be strangulation, chloroform had best be given, taxis tried and, if unsuccessful, the operation performed at once before beginning of inflammation. In the first mentioned condition we permanently cure the hernia without any risk of life or danger of strangulation. In the second condition we prevent the injurious results of inflammation, adhesion, et cetera.

No one can deny that to move these patients a distance to a hospital greatly increases the danger to life.

The varieties of hernia are epiplocele, enterœpiplocele, or an enterocele which commonly strangulates.

The operation that has given best satisfaction in my hands is that where the incision is made from the anterior spine of the pubis, or over the most prominent portion of the tumor, in a semi-circular form to within about two inches of the anterior spine of the illium, convexity upward, concavity downward, leaving a space of one and a half inches at the widest part from Poupart's ligament. The skin subcutaneous cellular tissue and superficial facia are divided, being careful not to mistake the aponeurosis of the external oblique for the superficial fascia, as it is only a fascia here and has no muscular fibers. It is then divided and flaps are reflected exposing the coverings of the cord, great care being taken to prevent hemorrage. In case of strangulation, with a groove di-

rector as a guide, or better your finger, follow the upper margin of the sac to the internal abdominal ring or constricting band. Pass beneath it with a blunt point curved bistoury cut upward and inward only enough to relieve tension. As soon as this is done the tumor will be reduced in size and can be returned at will.

The coverings of the cord are now opened and the sac separated from the cord by blunt dissection up to and including the internal ring. The sac is then opened and the contents freed of adhesions. If the circulation is thoroughly established the hernia is returned to the abdominal cavity. The sac is then ligated with catgut as high up as possible, divided transversely and dropped into the abdominal cavity.

The cord is held to one side by an assistant and with a No. 3 twenty-day catgut ligature, a needle threaded on each end, the suture is first passed through the muscular fibers of the internal oblique and transversalis above the cord. Both needles are then passed through the shelving edge of Poupart's ligament and tied, closing the upper or external border of the internal abdominal ring. With a catgut suture, same as before, with a needle on but one end, the cord is then lifted from its resting place, the needle is passed through the internal oblique and transversalis, as close to the cord as possible without causing constriction, then the shelving portion of Poupart's ligament, and tied, closing the internal abdominal ring close about the cord. With the same suture the internal oblique, transversalis and conjoined tendon are sewed to the shelving portion of Poupart's ligament by a continuous suture. The aponeurosis of the external oblique is then brought over the cord and with the superficial fascia and closed with twenty-day No. 3 catgut in a continuous suture. The skin is then closed with a subcutaneous suture of silkworm gut that can be removed on the ninth or tenth day. I then put on my dressing, which is held in place by a figure of eight bandage; this is removed in four or five days unless indications demand its removal earlier.

The suture placed above and below the cord decreases the size of the internal abdominal ring, so that it is not necessary to resect the veins unless they are very large. The advantage of transplanting the cord and overlapping it with aponeurotic and muscular structures are, that while they are elastic, they possess great muscular strength and are not liable to give way. I have also found the circular incision to be of advantage, giving more room and better view of the field of operation and making a stronger abdominal wall by not placing one layer of suture directly above the other, which, in some cases from the swelling, gives more pain by pressure on the cord and therefore more liable to result in permanent injury.

DISCUSSION.

Dr. A. R. Kieffer, St. Louis: This is an excellent paper on account of its clearness, but there are, I think, however, some few points in the modern operations on hernia that he did not mention and which I have found very beneficial.

In the first place, I always use gloves. Then, too, instead of using No. 3 catgut, I use No. 1, and would prefer No. 0. My experience is that you can tie a better knot with the smaller size. I believe if you get in the habit of using small catgut you will find it more satisfactory. I have not found it necessary to use a circular incision to get more room. You will find that when the hernia is large and rather old, the tissues are thin and redundant. The Bassini operation in these cases does not suit me. The Halstead or Andrews operation is better. The chief indication is to use small catgut and sew close to cord. Although the essayist said nothing about drainage, I should like to remark that formerly I was unable to get along without a tube or gauze wick. I have learned, however, that a clean careful technic needs a few strands of catgut only for drainage.

Dr. Suddarth, in closing: I got in the habit of using the large catgut on account of one case I had, an old man seventy years of age, who had strangulated hernia. He was a fellow with his own ideas. I used a small catgut. He got up the next day and would not remain in bed. Since then I have guarded against my patients getting up the next day by using a larger catgut.

As to drainage, I have never used it in any of these cases, and have not had any bad results. I sometimes use gloves but it depends upon what I have been doing before hand. If I have been in a pus case I always use them.

SURGICAL TREATMENT OF AMEBIC DYSENTERY BY APPENDICOSTOMY.*

By Rodney J. Bunch, M. D., St. Louis.

The operation known as appendicostomy was first suggested by Keetly, of London, in 1894, to establish an opening through the appendix with the external world for the purpose of relieving a bowel obstruction where lesion occurred below the cæcum; but it was not till 1902 that his suggestion was carried out. Dr. Weir, of New York, did the operation for the purpose of treating a case of colitis where he wished to flush the bowel and at same time medicate and nourish his patient. Since that time the operation has found a place in the treatment of several intestinal disturbances where the exciting cause is situated below the cæcum. Certain cases have been successfully treated, such as obstinate constipation, colitis, diffuse septic peritonitis, abdominal distention, and the one of

*Read in the Surgical Section, Fifty-second Annual Meeting, Missouri State Medical Association, Jefferson City, May, 1909.

which I am about to speak, namely, amebic dysentery. We have found that the large bowel plays the chief role in the absorption of liquids and as much as ten per cent. of fats can be taken up in the large bowel, hence the importance from the standpoint of nutrition. The operation is simple, practically without danger where reasonable care is exercised, the death rate being less than one per cent. in all reported cases.

Operation: The ordinary gridiron incision is made, as one would do it in the ordinary uncomplicated appendicitis cases; after bringing appendix through abdominal opening, a loose ligature is thrown around mesoappendix being careful not to pinch off the blood supply and produce necrosis. The base of the appendix is pulled up to abdominal wall by an assistant, making gentle traction on the ligature through the mesoappendix. The operator then sews the base of appendix to the parietal peritoneal wall. The appendix is then walled off by means of small gauze strips and allowed to remain untouched for thirty-six hours, when adhesions of peritoneum will be firm and avoid all possibility of infection when appendix is opened up. This is accomplished by simply cutting away the tip of appendix, then placing two small silk stay-sutures through skin, then include muscular and mucous coats of appendix in order to prevent the mucosa from retracing and offer difficulty in opening the lumen of the appendix. The next step is to dilate the appendix in order that irrigation may be accomplished with ease. To prevent a stenosis and closure of the lumen, a sound, number 10 or 12 English, is passed daily for two weeks; or better still is to leave the catheter in the appendix for ten days, after which little trouble is encountered.

The apparatus for the treatment is simple, consisting of an ordinary female catheter, a piece of soft rubber tubing and a small funnel through which fluids are passed into bowel. No force is required; simply let gravity force the fluids and patient will complain of little or no pain. As much as six quarts in introduced, and patient will usually retain this from one-half to three-quarters of an hour, then expel as an ordinary enema. The choice of the solution to be used is one to be decided by operator, as many drugs have found a place in the treatment of amebic dysentery. Quinine, cupric sulphate and the silver salts, have given the best results. Quinine in solution 1 to 5,000, gradually increased to 1 to 1,000, is used, and some authors even use it stronger. Cupric sulphate is used in strength of 1 to 5,000, or 1 to 3,000. Silver nitrate, grs. 1 to 2 to the ounce to be followed by normal saline solution. The salts of lead and mercury are used but I have never tried them. In the case which I shall show you, quinine and cupric sulphate have been used and without an unpleasant result so far as I know.

This patient, J. S., white male, age 33 years, Russian by birth, two years in St. Louis, was admitted to the City hospital Jan. 8, 1909, with a history of having spent the summer in Arkansas, and since that time has suffered with intestinal trouble, which he terms "bloody flux." The stool contains blood and mucus and upon microscopical examination many

large, actively motile, ameba, some of which contain red blood corpuscles, are found. Patient has slight fever, 99° oral. No appetite, intense thirst and is seemingly very ill; is confined to bed. The usual mouth medication proved futile and it was decided to irrigate the bowel by means of appendicostomy, which operation was carried out Jan. 26th. Since that time patient has improved steadily without complications so far as I am able to determine. Patient has gained 20 pounds, eats and sleeps well, has solid stool and, at last examination, ameba negative. The intestinal tract is irrigated once every five days with quinine solution and patient has been up for two weeks.

CONTRAINDICATIONS: All cases are not suited for appendicostomy and where the appendix is firmly bound down by adhesions, constricted lumen, malformation, new growth and an infantile organ, exist, the operation can not be successfully done. In 100 autopsies at St. George's hospital, London, the appendix was a fibrous cord in two cases, in two cases the lumen only admitted a bristle, and the remaining ninety-six subjects could have permitted the operation.

CONCLUSION: 1. Appendicostomy is a simple and safe operation. 2. Few ill after effects occur. 3. Patient does not complain of treatment and improves in the majority of cases. 4. Is a valuable aid to mouth medication. 5. Appendicitis chances lessened.

DISCUSSION.

Dr. A. R. Kieffer, St. Louis: I would like to ask, what advantage there is in irrigating the colon through the lumen of the appendix, over irrigating through the anus? I canont report a case of amebic dysentery, but I had a case that was very persistent for a year and a half. I put him on a treatment of irrigation of the colon with a 3 per cent. solution of boracic acid. Many doctors use a long rectal tube, with a view of carrying the injection high up. By actual measurement, the colon is sixty-one inches long, the half way point being the splenic flexure. You cannot hope to often get a tube so far. If you will put your patient in the knee-chest position, you will find that the solution will run down by gravity to the dependent point of the arch of the colon, and by turning patient slowly to right side fill the ascending colon, and cecum. I have never been able to see why that would not do as much good as to open the abdomen and pull up the appendix. In the case I refer to, the treatment was eminently satisfactory. It seems not to be generally known that you can flush and fill every part of the colon by putting the patient through that manipulation.

Dr. J. D. Griffith, Kansas City: I have seen several cases of amebic dysentery, having been in the Philippines where it is prevalent. I have done appendicostomy in two cases, satisfactorily, using a quinine mixture, not the solution. I have used the bisulphate of quinine through this opening, and I have used quinine solution, without appendicostomy. I have had seemingly good results, although I probably have not watched

my cases long enough yet. The first case I encountered came to me from Vera Cruz, Old Mexico. I worked with him and found that I could do nothing with quinine and acetone until I could give him plenty of iron, which I found wanting in the blood examination. I combined the previous treatment with iron of a soluble form, and that after ten days or two weeks of iron administration I commenced to do some good in the rectal work. I am satisfied that I could do as much good by simple lavage, with appendicostomy, or more, probably, than I could with the continuous quinine injections.

Dr. Coffey, Kansas City: The usual manner in giving a high injection or putting medicinal remedies into the sigmoid, or giving colonic irrigation is of little use, for we do not get the results we should. Why?

I have found a way which assists me in getting the solution to the point where it is needed. It is difficult, as we all know, to get any medication into the colon. It has been my custom to put the patient in the knee-chest position, and then use a Kelly speculum. By the aid of the reflector, I am able to see the lower end of the sigmoid, and get my injections directly into the sigmoid through a rectal tube.

Dr. Louis Rassieur, St. Louis: A year ago I had a patient who had several severe attacks of appendicitis. In one of the attacks I operated, removing the appendix. Evidently the ligature had slipped, because several days after the operation the Murphy drop enemata came out at the site of the operation. When, however, the physiological saline solution was given in large amounts, that is, not by the drop method, the fluid did not flow from the fistula, but acted as a laxative. This led me to infer that medication of the colon in dysentery could be well accomplished by using as a vehicle for the medicine a proctoclysis, as described by Dr. J. B. Murphy.

Dr. Bunch, in closing: I wish to say just a word to the statement by Dr. Kieffer in reference to the introduction of the rectal tube, that in three of these cases, mouth medication was tried in connection with the rectal tube. There are a number of cases of boracic acid poisoning on record, although I have never seen one. I believe the rectal tube, in the hands of a good man, would give good results, although I was unable to use it satisfactorily. We tried it and got no results; the patient did not improve.

Ordinarily we do not reach the cause of the trouble. The amœbi bury themselves under the mucosa of the bowel. The preparations used wash out some but many of them remain. I believe the ideal treatment consists of putting the large bowel to rest. How we are to do that, I do not know. Some have recommended the resection of the colon, which seems radical, but is endorsed by some good men.

PRACTICAL POINTS IN ABDOMINAL SURGERY.*

By C. C. Morris, M. D., St. Louis, Mo.

In presenting this subject for consideration, I have nothing new or startling to offer, my purpose being rather to emphasize certain cardinal essentials of every abdominal operation, which are passed over only too lightly by some operators, while wholly ignored by many others.

Success in abdominal surgery, as in all the affairs of life, depends very largely upon the observance of details. The patient should be very carefully examined with reference both to the local and general conditions; and the particular operation to be performed should be planned with exactness and care. "The operation should be conducted as speedily as is possible, consistent with complete and careful work. An operator should always be speedy, never hasty. Speed should be the achievement, not the aim of the operator."

It is of primary importance in anticipation of abdominal section, to arrive at a correct diagnosis, and while I grant it is not always possible to make an absolute pre-operative diagnosis, still this can usually be done with a reasonable degree of certainty, and should always be conscientiously attempted, if for no other reason than that the training thus acquired will become a valuable asset in operative technique, and post-surgical treatment. The limits of this paper will not permit me to dwell upon diagnostic methods, and it would be presumptous on my part to do so, since such methods are amply demonstrated in all modern text books of surgery. In making the diagnosis, especial attention should be given to a consideration of the gastrointestinal contents. This is of very great importance, especially if the operation is an emergency one, where no time can be spared for the proper preparation of the patient.

One of the most valuable assets of the abdominal surgeon is a knowledge of the bacteriology of the alimentary canal. Many problems connected with stomach and intestinal surgery could be more easily solved, if closer attention were given to this subject. In gunshot wounds of the abdomen the surgeon bases his prognosis, not only upon the extent of trauma sustained, but upon the fact as to whether the patient had an empty and sterile alimentary canal, or a loaded and infectious one. Surgeons familiar with these facts are not surprised to see a patient make a speedy recovery from an unrepaired gunshot wound of the stomach. The intestinal contents of the new-born are always sterile, which fact was first recognized by Bilroth in 1874. He also discovered that the yellow stools coming a few hours or days after birth are the first intestinal dis-

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charges to contain microörganisms. Other observers have shown that the appearance of bacteria in the stools depends upon the time at which the first nourishment is given, and that thereafter bacteria are present in some portion of the intestinal tract. Hence, under prevailing social conditions, after the first few hours of life, the intestinal canal ceases to be sterile and organisms can always be found.

Of these organisms two varieties are present: the permanent and the transient. The permanent variety in man is the colon bacillus; the transient includes any and all others that are introduced with food and drink. The origin of the colon bacillus is not definitely known, but there is little doubt that it enters with the food through the mouth during the administration of first nourishment to the infant, and that thereafter it remains a constant inhabitant of the alimentary canal throughout life, although it is not a necessary part of the human economy; for it has been shown by experimentation that the bacterial invasion of the intestinal canal is not essential to the life or comfort of the individual.

Experimental work, which has been amply confirmed, shows that life in young animals whose food and surroundings are sterile, is sustained with all ease. This being the case, is it too much to hope that, at some future time, evolution and education may bring about this ideal amicrobic social condition? Gillispi and Miller have shown that when bacteria are introduced with the food, there is a steady decrease, as digestion proceeds, and in proportion to the acidity of the gastric contents. According to their findings, at the end of nine hours the stomach contains no organisms and is absolutely sterile. In the duodenum the number of bacteria is small, and the further down in the intestine the material is from which the examination is made, the more numerous are the organisms, until the ileocecal valve is reached, where they attain their maximum number; from this point the number recedes, comparatively few being found in the large intestine.

In cases of colotomy for artificial anus, the distal portion of the gut is sterile, provided none of the contents from above reaches it. Cushing, of Baltimore, has made extensive investigation along this line in cases of intestinal fistula. In a case of jejunal fistula, he administered a glass of milk, and recovered it within a few minutes of ingestion with its bacteriological features practically unchanged. This shows the practical importance of the physiological character of the food. If the ingesta is fluid, it passes rapidly into the duodenum, and is little, if at all, altered by the transit through the stomach. If the food be solid, it will remain, perhaps for hours, in the stomach subject throughout to the action of the gastric juice, and when passed into the duodenum it will have the number of its bacteria greatly reduced. It is, therefore, of the greatest importance, if called upon to do laparotomy for gunshot wound of the abdomen, to know whether the patient has taken food recently, and, if so, whether it be solid or liquid.

Macfadyen has shown that the bacillus of anthrax, an organism eas-

ily killed by the action of the gastric juice, cannot be recovered from the intestine when taken after a full meal, but, when administered with a large amount of liquid on an empty stomach, its recovery from the lower bowel is easy. In one of Cushing's cases, the bacillus prodigiosus, which is especially susceptible to the action of the gastric juice, could be easily recovered from a jejunal fistula after its ingestion with inoculated milk.

The lesson to be drawn from the foregoing facts is, the importance of rendering the alimentary canal sterile before abdominal section, in so far as it is possible to do so. Furthermore, when the surgeon familiarizes himself with the action and life history of pathogenic bacteria, he is much better prepared to formulate and adopt a faultless technic.

Patients who present themselves for laparotomy should have from two to several days' preparation, the time being determined by the physical condition of the patient. After the diagnosis has been determined, the patient should be assigned a room in the hospital, and a nurse instructed to save and measure the urine for twenty-four hours. This is to determine not only the quantity passed in twenty-four hours, but to obtain a knowledge of the percentage of urea excreted for the same period. About ninety per cent. of the nitrogen taken in with the food is eliminated by a healthy individual through the kidneys in the form of urea. In other words, from five hundred to six hundred grains of urea are eliminated by an average sized, healthy, individual. If, therefore, the examination of the patient's urine shows but three hundred grains or less, it is an indication that the operation should be postponed until the proper elimination has been obtained. Surgeons who observe this rule will save their patients from a degree of danger by anesthesia, and themselves a great deal of anxiety immediately following the operation. I have no doubt that in case of death within forty-eight hours after operation, where the cause is usually given as surgical shock, the real cause may have been suppression of urine, due to the fact that the patient was not thoroughly and properly prepared with reference to this condition.

The factor which contributes mainly to a diminished elimination of urea is a faulty metabolism. The limits of this paper will not permit a lengthy discussion of this subject, but I desire to emphasize its importance, especially with reference to the administration of anesthetics. I recall two cases in my own practice; one, a case of catarrhal appendicitis; the other, a cyst of the right kidney, who died of suppression of urine after operation. In both of these cases the total amount of urea excreted in twenty-four hours did not exceed two hundred grains. I will mention a third case; a middle aged woman was brought to me with a simple ovarian cyst. After three days' preparation, during which time the elimination of urea amounted to but two hundred and fifty grains, I operated and removed the cyst, which had no adhesions and was attached by a small pedicle. There were no complications whatever from an operative standpoint, and the patient was not under chloroform more than thirty minutes. Following the operation the first twenty-four hours, only

twelve ounces of urine were excreted, with no increased percentage of urea. The second twenty-four hours the quantity was reduced to six ounces, and the third twenty-four hours the total quantity passed was but two ounces. By this time the patient was in a state of uremic coma. Examination of the wound showed it to be in a perfect condition.

The treatment consisted in placing the patient in hot blankets and surrounded with hot water bottles, which stimulated the skin and produced profuse sweating. At the same time diuretics and purgatives were administered effectually. The patient remained in the coma for five days, and made a slow but permanent recovery. As an illustration of how the surgeon's efforts sometimes fail of appreciation, the husband of this patient strongly threatened to sue me for malpractice, because his wife sustained some painful burns about the lower limbs and hips from contact with the hot water bottles.

Needless to say, these cases occurred in my earlier practice. My observation has been that in proportion as the excretion of urea approaches the normal, the patients will suffer less, do better from the start, and enjoy an uninterrupted convalescence. My observation will also bear out the statement that, as a rule, patients whose urea is normal, or nearly so, suffer less from nausea after anesthesia than those patients whose elimination of urea is much below the normal.

After determining a satisfactory elimination of urea, the next most important detail in the preparation of patients for abdominal section is to see that the alimentary canal is as sterile as can be made with our present knowledge of the subject. Beginning with the mouth, the teeth should be examined, and if cavities are present, should be treated and made sterile. The patient is supplied with a sterile toothbrush and antiseptic tooth paste or powder, and instructed to use it freely, immediately before and after taking nourishment and before going to sleep at night. Following the use of the brush, the mouth should be rinsed with sterile water. All food given during these days of preparation should be sterilized by thorough cooking; likewise, all liquids. While boiled water may answer the purpose, I prefer an ærated distilled water, where such is obtainable.

Fecal masses and decomposing material in the intestines should be removed, which I think can best be accomplished by repeated small doses of calomel, followed by sulphate of magnesia or other saline. This treatment should be given during the first twenty-four hours of preparation. I do not believe it good practice to reduce the quantity of food for a longer period than twenty-four hours immediately preceding the operation. I therefore allow patients their usual amount of nourishment, while preparing them for operation, but insist that they eat nothing uncooked. All nourishment taken must have been sterilized by thorough cooking, and the drinking water should be ærated and distilled, if possible; otherwise, it should be boiled.

During the twenty-four hours immediately preceding the operation, I allow about one-half the usual amount of nourishment. I find this

practice does not reduce the patient's strength nor lower his vital forces, which are of first importance in post-surgical treatment. The evening before operation, the patient is given a tub bath, the abdomen broadly shaved, and the patient allowed to pass the night without the discomfort of a wet antiseptic dressing. These dressings are not only a source of discomfort and annoyance, but they irritate the skin, and in some cases, at least, make it more difficult to obtain a sterile field. It is, therefore, better to prepare the abdomen after the patient is on the table. Especial emphasis should be given to cleansing the umbilicus, which is never as clean even as the surrounding skin. This can be done very thoroughly by first using liquid soap and a piece of sterile gauze on the end of a probe, after which the cavity should be filled with tincture of iodine or pure carbolic acid; if the latter is used, it should be neutralized with alcohol after a few seconds; if the former, it only needs to be touched with a sterile piece of gauze.

It is not my purpose to enter into the details of operative surgical technic, for many different methods are practiced with the same result, so far as asepsis is concerned. Hence, it makes little difference whether this or that method is employed. Every surgeon realizes that in so far as operative results are concerned, a strict attention to the surgical toilet—by himself, his assistants and nurses—is imperative. With some exceptions, it may be said that the result of an abdominal section is determined when the patient leaves the operating table. This, however, will depend in many cases, at least, upon the fact whether the surgeon continues to give his personal attention to the after treatment, or delegates that important responsibility to an assistant. I can not emphasize too strongly the importance of a surgeon giving his personal attention to the after treatment in all cases of celiotomy. Even with our advanced knowledge of surgical technic, wound infection occasionally follows an operation, when least expected. It is, therefore, important for the surgeon to know the kind of infection with which he has to deal. This can only be done by means of culture media or inoculation experiments. When the character of bacteria infesting the wound is known, the infection may be attacked scientifically with appropriate disinfectants, with therapeutic sera, or with vaccins. The incident of wound infection may be inferred from the local and general clinical symptoms; but an absolute knowledge can only be obtained by scientific laboratory methods and the use of the microscope. The application of these methods in isolating post-operative infection has, within a few years, approached a revolution in abdominal surgery.

To recapitulate: The points upon which I wish to place the greatest emphasis are:

1. The proper attention to the sterilization of the alimentary canal before every abdominal section.

2. The estimation of the percentage of urea excreted before the anesthetic is administered.

3. The importance of isolating the character of the bacteria in case of post-operative infection.

A BRIEF REVIEW OF MODERN SURGERY OF THE RECTUM.*

By J. S. Wallace, M. D., Brunswick, Mo.

The surgical treatment of diseases of the rectum has undergone many changes during the last few years, and my object is to touch very briefly upon points which mark the improvement over those formerly practiced. Since the adoption of aseptic methods in all details of operative surgery, rectal surgery has been stripped of many of its dangers.

The treatment of rectal disease is about the most unsatisfactory that the general practitioner has to contend with, owing to the dread that most persons so afflicted have of surgical interference. The great majority of operations, however, are free from risk to the patient and from anxiety to the surgeon. The natural tendency has therefore been to aim at shortening the period of convalescence, and we should select that mode of treatment which will give the least pain, the quickest repair and restore the patient again to his family, a useful citizen.

Local anesthesia, in many cases, is a godsend, and appeals to the patient as being safer than general narcosis, is safer if used properly, requires a less number of assistants and enables us to treat patients at home that would otherwise fall into the hands of the itinerant or advertising irregular.

The technique, as given by Dr. J. P. Tuttle, of New York, and recommended by such specialists as Drs. Gant, Bodine, Mathews and others, consists in anesthetizing the lesser sphincterian nerve and the inferior hemorrhoidal nerves by a single puncture of the hypodermic needle back of the posterior anal commissure, and the introduction of from twenty to thirty minims of one-half per cent. of cocaine or eucaine, so that the sphincter can be thoroughly stretched. After this is done, the hemorrhoids, or other conditions upon which operation is proposed, are anesthetized by the local injection of small quantities of one-tenth per cent. solution of eucaine, cocaine, stovaine or novacaine.

Sometimes it is necessary, in very sensitive patients, to anesthetize the branch of pudic nerve which supplies the sphincter at the anterior commissure by the introduction of small quantities of the solution at this point. Local anesthesia is limited to the cases in which the field of operation is not great and the time to be consumed is short. In operations involving wide and prolonged dissection, requires general anesthesia and should be operated upon in the hospital or at home.

What the surgeon terms painless and the patient terms painless are not always identical. Whatever the anesthetic employed or however

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slight the pain during the operation, post-operative pain is unavoidable unless opium or some other anodyne is used. The man who promises to operate on all rectal troubles without pain will be doomed to disappointment, but to him who selects his cases intelligently local anesthesia will prove a valuable aid.

The three most common conditions requiring surgical treatment are, fissure, fistula and hemorrhoids. In simple fissure of the anus, complete dilitation of the sphincters, the application of cocaine and then cauterizing with nitrate of silver, or the application of carbolic acid is quite sufficient to cure in the majority of cases. But when the disease is chronic, and the ulcer has an indurated base, divulsion of sphincter, complete excision and suturing the small wound left after excision, so as to obtain immediate union, is more satisfactory than linear incision formerly recommended.

If the ulcer is neglected, the patient afflicted with this trouble becomes pale, anemic, nervous and with a train of symptoms such as pain in the genitourinary organs, legs, thighs and back that are quite characteristic. Constipation is the rule, as the patient postpones an evacuation of the bowels as long as possible, and the pent-up pus is absorbed by the lymphatics and thus forms fistula in ano. In simple cases of fistula where the sinus is straight and single, a complete resection of all cicatricial and sinus tissue, and then uniting the wound with several tiers of buried catgut sutures, shortens the period of convalescence very greatly. With ordinary precaution there is no increased risk, and the results fully repay for the extra time and trouble taken.

It is not advisable to use sutures when the sinus extends far up in the bowels, around the bowel, or many sinuses extend into the surrounding tissues. In these cases it is best to incise the sinuses, wash the wound with a solution of bichloride of mercury and pack loosely with narrow strips of sterilized or iodoform gauze.

Whenever the presence of an ischio-rectal or anal abscess is detected, early incision is indicated and the wound should be thoroughly irrigated with a solution of bichloride of mercury, then packed with strips of sterilized gauze. The bowels should be kept open by some mild aperient or enema, and should be thoroughly cleansed after each operation, and the wound dusted with iodoform or aristol before being packed with sterilized gauze.

The three chief operative methods at present in use for the cure of hemorrhoids are the ligature, hypodermic injection, and the clamp and cautery. When hemorrhoids are polypoid in character and have healthy mucus membrane intervening, they can be quickly and efficiently removed by ligatures. After the patient is anesthetized, he is placed in lithotomy position, or in the Bozeman position for the operation of vesico-vaginal fistula, and the limbs supported by a Clover crutch, or some modification of it. The sphincter should then be thoroughly dilated and the tumor, grasped with a pair of artery forceps, is pulled down and a circular in-

cision is made through the mucus membrane at its base or through the integument or, should the tumor be at the verge of anus, with a pair of curved scissors. This incision severs the nerves of sensation, which enter from below, and makes the presence of the ligature less painful. A hypodermic injection of cocaine also relieves the pain very much. A needle, armed with a double thread of stout sterilized silk, is thrust through the base of the tumor. The thread is cut near the middle, and is tied in two portions in the groove made by the knife. After tying the knots it is best to snip off the summit of each tumor. A rubber tube, three or four inches long, wrapped with sterilized gauze, is inserted in the rectum to permit the escape of gas, and the stumps, after being thoroughly cleansed, are dusted with idoform and covered with idoform gauze, held in position with a T bandage.

In a few cases where the patient objected to the ligature or excision, I have made radical cures without pain by the hypodermic injection of a twenty per cent. solution of carbolic acid and ergot. Yet I have never operated in this manner without some degree of apprehension as to the results.

If the injection plan is resorted to, the following rules should guide us:

First, unless cocaine is used, inject only internal piles; however if an external pile be injected a few minutes beforehand with cocaine the pain can in a measure be prevented.

Second, use dilute forms of injection first, and stronger ones only when these fail.

Third, inject only one or two piles at a time and allow from ten to thirty days between operations. Apply vaseline to the surface to protect it from dripping during the operation and keep the syringe in a few moments to prevent the mixture from flowing out. Inject slowly.

Fourth, keep the patient in bed for a day or two.

Of all the operations suggested or now used, the clamp and cautery is the most popular routine treatment, gives best results, with less pain than the ligature, with the loss of little or no blood, the recovery is more rapid, and the danger is less than by any other method.

In the cautery operation care should be taken to secure scars parallel with the axis of the rectum and leave sufficient mucus membrane between the stumps to obviate the danger of stricture. In this operation the sphincter should be divulsed, the tumor seized with a vulsellum forceps and the clamp firmly adjusted around the base of the tumor, then excised with scissors, and the stump seared with the Paquelin cautery heated to a white heat. A well adjusted pad held in place with a T bandage should then be applied and a hypodermic injection of morphine given, if there is much pain. In some cases the whole circumference of the mucus membrane just within the white line is involved and the condition is associated before or after stretching of the sphincter with prolapse of the unaffected mucus membrane above. In these cases the liga-

ture or clamp, if used, would produce a hard cicatricial band at the verge of the anus; and in order to make the cure radical by surgery alone the morbid blood vessels must also be removed, either by knife or scissors, or both.

The profession is indebted to Mr. Whitehead, of Manchester, England, for introducing the more complete surgical procedure of excision of what he describes as the "pile-bearing area." The objections to the Whitehead operations are many. It is tedious, bloody, technically difficult and the sequelæ, such as secondary hemorrhage, everted or stenosed anus, loss of integrity of sphincters, soiling of linen from escape of soft fecal matter, doom the patient to constant mortification for the rest of his life. There are several modifications of the Whitehead operation, viz., that of Drs. Pratt and Henderson, but the same objections may be urged against them that are made to the Whitehead operation. In the post-operative care of these cases pain should be relieved with opium suppositories or morphia hypodermically; the bowels moved in two or three days, and the patient should not be allowed to be up too soon.

I have been able in the preceding paragraphs barely to outline the methods of treatment in some of the more common forms of rectal diseases and if I have succeeded in helping some brother physician, my mission will have been accomplished.

DISCUSSION.

Dr. J. D. Griffith, Kansas City: I have not done much rectal surgery since we have had Dr. Thrailkill. I heard Dr. Wallace talk about the clamp and cautery, and that may be all right now. I did it a number of years ago. I thought I was in clover at the time, but in the night about two or three o'clock the nurse called me up from the hospital, and I spent the night trying to stop the hemorrhage. I have never used the clamp and cautery since.

Dr. C. H. Suddarth, Smithville: With reference to the tube, I would say that I have myself had the experience of wearing the tube thirty-six to forty-eight hours. It has some peculiar advantages, at least over the method of leaving the external sphincter to do its work. Whether you do the Whitehead operation, the clamp and cautery, the ligature or other operations, you will find that you will once in a while run across a case of stricture. By wearing the tube for thirty-six to forty-eight hours, you lessen this tendency. I believe you see more strictures from the clamp and cautery and Whitehead operations than from any other. I therefore use the tube, not the large tube that Dr. Thrailkill speaks of, but a smaller one.

Dr. Stauffer, St. Louis: A few years ago some of us became very enthusiastic over the use of local anesthesia in retal surgery. I have about succeeded in diagnosing the cases suitable for local anesthesia. Any operation for hemorrhoids can be done without paralyzing the sphincter. I paralyzed just one too many and I have not been guilty since. I know

you can do the work under local anesthesia in your office, but doing the work and taking care of your patient are two different things. The use of infected syringes in giving enemas frequently has bad results. You will find that in the average family, every member of the family has a separate toothbrush, but usually they all use the same syringe.

RUPTURED BLADDER: REPORT OF A CASE.

By Frank J. Tainter, M. D., St. Charles, Mo.

Since the days of Maltrait, the mortality in cases of ruptured bladder has so materially changed, we begin to feel that nearly all cases of ruptured bladder, unaccompanied by injury to adjacent parts, should get well if operated upon early. It is with a feeling of reluctance that I report a case.

According to Maltrait, of 97 cases of intraperitoneal wounds of the bladder, only one recovered after laparotomy and suturing of the visceral wound, and this case was reported by Walter, of Pittsburg.

Rivington collected reports of 322 cases, 119 were intraperitoneal and 183 extraperitoneal; only 27 recovered and only one in which the wound was intraperitoneal,—the case of Walter's.

In 1882, Bartels analyzed 166 cases of ruptured bladder, which gave 149 deaths and 17 recoveries, a mortality of ninety per cent.

In 1903, D. F. Jones analyzed 54 cases of later occurrence, finding 26 deaths and 28 recoveries; mortality forty-eight per cent.

Of the 22 cases published since 1892, quoted by Horwitz, there have been 7 deaths and 15 recoveries; mortality twenty-seven and five-tenths per cent.

Prompt surgical intervention has succeeded in reducing this enormous mortality and is the best possible proof of the pressing necessity of making an early diagnosis and subjecting the visceral wound to direct treatment.

The vigilance on the part of physicians has brought the proportion of recoveries slowly forward, and the improvements and refinements in the surgical technic have nearly reduced the mortality to ten and fifteen per cent.

Injuries of the bladder are more likely to occur when the organ is distended with fluid, since it then rises above the symphisis pubis and the anterior wall becomes more exposed. It is a frequent injury when

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the pelvis is fractured, but occurs quite often unaccompanied by other injury.

Rupture of the bladder by compression of the distended organ occurs more frequently in the posterior superior wall and in an antero-posterior direction. There is an anatomical as well as a physical reason for this. At this point there is a weakness in the texture of the bladder wall, due to a wider separation of the muscular fibers. Besley properly concludes that the extent and the direction of the rupture depends on the disposition of the muscular fibers and not on the direction or force of the traumatic agent.

A fact that should not be lost sight of is that not an inconsiderable number of cases have been recorded in which the visceral wound was extraperitoneal.

Symptoms: The two symptoms that may be most relied upon in diagnosticating perforation or rupture of the bladder, are, hemorrhage and an empty bladder. Besley concludes, from an analysis of 23 cases of ruptured bladder which were treated in the Cook County hospital, that the diagnosis is not at all an easy matter. There are so many physical conditions which make the results in an examination so variable that we should not lose sight of this. For instance it is possible to have a ruptured bladder communicating with the peritoneal cavity and yet the catheter withdraw a definite amount of fluid which was injected; the fluid being more or less bloody and the absence of the distended bladder over the symphisis pubes would assist us in making proper deductions.

An extraperitoneal wound of the bladder is characterized by the profuseness of the hemorrhage. An intraperitoneal rupture of the posterior wall, by the escape of all the urine into the peritoneal cavity.

The catheter introduced into the bladder will demonstrate the latter condition unmistakably in the majority of cases.

In extraperitoneal ruptures a first glance at the abdomen might suggest an over-distended bladder, as the accumulated urine has distended the space of Retzius and loose perivesical connective tissue which then resembles the physical outlines of a distended bladder.

The catheter in this case will draw off a quantity of bloody urine with clots. The presence of clots is, however, a symptom of some questionable value in making a differential diagnosis of ruptured kidney.

The remote consequences of extra peritoneal rupture of the bladder are sloughing, gangrene, and death from sepsis.

Under ordinary circumstances the urine is sterile and nothing must be done to infect this accumulation of urine and blood clots. Mitchel reported, in *Annals of Surgery,* 1898, a case of recovery following operation on sixth day, and Quick in *Annals of Surgery,* 1907, reports a case he operated upon eleven days after injury which was followed by recovery.

The catheter perhaps is responsible for fifty per cent. of operative failures. What a temptation it is to some to introduce a catheter into the

bladder when a few drops of blood is seen issuing from the meatus urinarius following an injury, for diagnostic purposes, without first sterilizing the instrument and the external meatus.

Seeing so much carelessness on the part of nurses and midwives we are led to believe that the possibility of infecting the bladder is overestimated. In relieving a case of supposed ruptured bladder with a catheter, or for diagnostic purposes, if there be any degree of cleanliness it should be of the highest in the use of this instrument.

The septic peritonitis which so constantly sets in a day or two after the injury in intraperitoneal wounds of the bladder is often provoked by catherization.

The treatment of ruptured bladder is operative and the details are the same as in all modern operations of the day. There are no special features or instruments needed. The success depends upon the cardinal principles of surgery: *drainage* and *cleanliness*.

Report of case: E. G., 22 years old, railroad brakeman, was injured while coupling the air brake on St. Charles Accommodation, March 7, 1904. A signal was given to "back" while he was between the cars; he was caught between the buffers, rupturing his bladder which had not been emptied for about six or seven hours. The immediate shock was great. He was attended by his family physician who tried to get the family's consent for immediate operation, but failed. After forty hours, however, the patient was sent to St. Joseph's hospital where I saw him, with Drs. Mudd, Wentker and Stumberg.

The abdomen was markedly distended with fluid, pulse weak and respiration was labored due to mechanical pressure of the fluids on the diaphragm. With the assistance of Drs. Mudd, Wentker and Stumberg, I opened the abdomen in median line and found the abdominal cavity full of urine, blood and clots. The clots and urine were first washed out with copious hot salines. A procedure, the wisdom of which is questioned at this date. The effect of the salines upon the pulse was striking and gave me more confidence that I could do the patient some good. The fluids were then sponged out and the patient put in extreme Trendelenburg after bowels were pushed out of the field by large abdominal packs. This of course was difficult owing to the gaseous distention of bowels.

Posterior to the space of Retzius, and intraperitoneal, was a rent two and a half inches, extending from behind the fungus to the lower posterior wall. There was still free bleeding at this point. The edges of the rent were picked up with toothed forceps and drawn well up into the wound and a double row of Lembert sutures placed, the first row being plain catgut, the second row, silk thread. The abdominal cavity was again flushed with saline solution, a large glass drainage tube inserted through the lower angle of the wound and the abdominal walls closed. The patient was then put in Edebohls position and a median perineal section was done, to insure a freer exit for the urine as soon as it began to

accumulate. This however I feel at this time was not absolutely necessary but from the subsequent history I did not regret having done so.

The patient was put to bed in an exaggerated Fowler position and salines given per rectum. His recovery was more or less uneventful excepting a slight leakage of the bladder wound, which discharged a little urine around the drainage tube; this soon stopped and wound entirely healed in three weeks. He left the hospital after a total of five weeks. For the first six months he was obliged to get up at night three or four times to empty bladder. His bladder slowly accommodated the secretion and now five years since the injury, he is able to hold water all night and apparently is none the worse for his injury. Nearly three years ago he was married and has two children. He drives an express wagon and handles heavy freight and is as strong as ever.

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DISCUSSION.

Dr. H. C. Crowell, Kansas City: I would emphasize particularly the very great need for asepsis in cases of rupture of the bladder. I think these cases should be treated with a greater regard for asepsis than any other class. I have never had a case of rupture of the bladder but I have had cases of injury done at the time of operation in doing pelvic work or vaginal work, particularly in doing a vaginal fixation. If the incision is closed properly and in a cleanly manner, the result is usually good, and if these cases of injury are seen before infection takes place they usually make a good recovery.

SOME PROGRESS MADE IN MEDICINE AND SURGERY.*

By C. O. Dewey, M. D., Breckenridge, Mo.

It has been said that the American people are essentially different from those of the older countries in that their chief concern is for the present.

We have little regard for the past and too little concern for the future. Now is the time for action. We concentrate our energies and devote our time to accomplish what we have undertaken, in the shortest possible space of time—making us in the concrete a nation of intense workers.

This intense activity, this strenuous life, has made our country what it is to-day, the most prosperous in the world. Nor is this to be wondered at. Situated as we are in a new country with immense natural resources, and diversified climatic conditions primarily adapted to a cosmopolitan people whose ancestry, in many cases, were acquainted, and even burdened, with the yoke of oppression; and living as they now do under a republican form of government where man is free to live, to vote, and to worship according to the dictates of his own conscience; this is enough, I say, to inspire healthy and right-minded men to run the mighty race of life swiftly, albeit they do so at a fearful and, in many instances, a fatal risk. This body of ours is a marvel of delicate mechanism, composed of a number of vitally important structures and organs connected together and dominated, as it were, by a network of nerve tendrils and blood channels, in number almost beyond computation, crowded together in a small compact space so that every organ, bony structure, gland, nerve, blood-vessel, duct, and every atom works together, each dependent on the other, in such exact precision and nicety, that we might well exclaim—this, indeed, is the handiwork of a Great Artificer. But there is a limit to human endurance. When our bodies are taxed beyond a certain point, a fundamental law of nature has been violated, and we must pay the penalty no matter what the cost. It is more evident, as day succeeds day, that the world at large, and American people in particular, are setting the pace too swift.

Our state insane asylums, our county poor farms, private sanitariums and like institutions, are crowded to overflowing even now; the front pages of our daily newspapers are replete with accounts of suicides and murders. Under the awful strain, people very naturally feel the need of something to tone them up; they have no time for rest and recuperation, so it is that the manhattan cocktail, a whiskey sour or a gin-fizz be-

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comes popular. Another class becomes nervous and cannot sleep; they say they are troubled with insomnia; they take bromides, headache tablets, or powders, opiates in some form or another and the continued use of either class of drugs finally becomes a fixed habit, after which it is only a step to the sanitarium or a suicide's grave.

But this intense application to what lies at our feet, is by no means limited to the world of commerce; it is to be found in every line of endeavor—even the professions seem to be infected with the contagion, and none more enthusiastically so than the medical.

There is probably no country on the face of the globe in which the medical profession has made more rapid progress than in the United States of America. Of humble origin, nourished and reared by superstition, for ages an integral part of theology and priestcraft; faith, that inestimable gift to man was, for long, its guiding star. "Faith in simples, in fetishes, in amulets, in poisons, in the forces of nature, and in all the dread legion of phantasm that may be formulated by the mind," all these at times have held sway in medicine. There was no solid basis to work upon. But from an insignificant shrub a stately tree has developed, its numerous branches profusely laden with its blossoms and fruit, and the widely disseminated roots drawing their nourishment from a resourceful ground. The development of the art and science of medicine was exceedingly tardy. Checked and hampered as it was by superstition; retarded by the lack of investigation and of scientific study, it was many ages before the dawn of actual progress.

It was in the luster diffused from the great Italian universities during the Middle Ages, in which anatomy and physiology were first systematically taught, that there existed a ray of hope for the future. This was the period in which medicine and surgery were sharply separated. The physician of that day deemed it beneath his dignity to undertake any kind of operation and the barber was the surgeon—venesection, or the art of bleeding a person, was the universal operation. An epoch then appeared in which the natural sciences began to exert their influence on the development of medicine. Practice, which, up to that period had been conducted entirely on the basis of authority—the teachings and writings of the old masters—began to depend more and more on observation and research. Chemistry, the daughter of alchemy, developed into a rapidly growing science. Biology, which treats of the science of living organisms, was studied systematically, and natural science was invoked to elucidate, or make plain, many hitherto unexplained problems. Pathology, which treats of the nature of disease, was the natural outgrowth from anatomy, and histology, or a knowledge of the minute structure of tissues, arose from research in physiology.

But all the time the truth in reference to health and disease was not known and conservatism was the order of the day. Looked at in the abstract, the vital processes were so marvelous and so far from being understood, it is little wonder that an air of mystery surrounded them. It

was along about the year 1877 when it began to dawn upon teachers of medicine that students must not only see and hear but must also do, and that, as anatomy is learned in the dissecting room, many other branches must be learned in the laboratory. We have had the dissecting room—that is, the laboratory of anatomy—for centuries; we must have now laboratories for a dozen other subjects. From this time on progress in medicine has advanced by leaps and bounds.

It is true surgery had made a distinct advance as early as 1842, when Dr. Crawford W. Long, of Athens, Ga., removed a tumor from the neck under the influence of an anesthetic. Just what was used as an anesthetic in this case I do not know, but to Dr. Morton, of Boston, belongs the honor of introducing ether as an anesthetic in dental work, and in 1847 Sir Jas. Y. Simpson, of Edinburg, first introduced chloroform in general surgery—one of the greatest boons to suffering humanity. It was not so very long after this until Pasteur, the eminent French scientist, through his studies in biology realized that infectious diseases were due to a minute organism to which he gave the name bacteria. A few progressive and able men grasped the full importance of Pasteur's discovery and it dawned upon them that preventive medicine was destined to become one of the highest callings to which man could devote his brain and consecrate his life.

It was said that Prof. John K. Mitchell, of Philadelphia, with the intuition of the poet, had claimed, way back in the early forties, that infectious diseases were produced by these minute organisms, or germs, but he was unable to prove it. The evidence of the existence and power of minute organisms was furnished by Pasteur, but the germs of suppuration, or matter, were not discovered by Ogston until 1881, and one year later Prof. Koch, of Berlin, discovered the active and hardy bacilli of tuberculosis. Just a few years prior to these latter discoveries, a Scotch surgeon, Lister, by name, applied himself to the study of Pasteur's views and had come to the conclusion that these microscopic organisms were responsible for many unfavorable changes in wounds, and he sought to prevent the entrance of bacteria into wounds by what he called antisepsis. But the profession was slow to believe. It was slow, also, in believing Pasteur's views.

The general attitude of the profession then, as now, was skeptical regarding the acceptance of theories so antagonistic to the general trend of thought, and authoritative statements had little weight, even though ancient and bearing the seal of honor. The ability to see things as they are, and to draw accurate conclusions from them is placed above all else. But if, as has been said, the profession of that day did not receive the views of Pasteur and Lord Lister as authoritative, certainly the one of to-day does.

Solomon, in all his glory and wisdom and power, never wrought so marvelously as did either of these in their respective fields of labor. An-

tisepsis has made possible most of the surgery of the brain, the chest, the abdomen and its contents, the heart, the blood-vessels and the nerves.

Statistics show us that it has lessened the mortality of major amputations, more than 50 per cent., and of compound fractures of the long bones from over 50 per cent. to under 1 per cent.

It has practically abolished the so-called blood-poisoning as a sequel of surgical operations. Forget Pasteur and Lister? Never! These two names will live in the minds and hearts of the people for ages to come; they are written broad and clear on the pages of medical and surgical progress; they laid the foundation for the new temple of scientific medicine and surgery which has aroused the enthusiasm of scientific men throughout the wide world.

The chief, and one might say, the only aim of the physician at this time was to cure disease; or, rather, to assist nature in the doing of it. Their whole time, talents and energies were devoted almost exclusively to that end. Prophylaxis, or the prevention of disease by remedial measures, was little thought of. If, perchance, a contagious or infectious disease should develop in a community, no prompt or active measures were taken to prevent its spread. The attending physician would, in most cases, advise the patient to keep to his bed, and warn visitors or curiosity seekers to keep their distance. Such a thing as strict quarantine was rarely thought of. Disease was looked upon as one of the necessary evils, an "enemy and curse to humanity" that had to be met and grappled with, though battling in the dark.

Do you wonder, then, that more was not accomplished in the way of successfully treating disease? You must bear in mind that in order to be successful in the warfare against disease, one must know the cause of each particular ailment one is called upon to deal with, else the tide of battle is very likely to go against you. And this *lack of knowledge as to cause of disease* has been the chief stumbling-block to progress in medicine and surgery.

The germ theory as advanced by Pasteur, Koch, Ogsten, and others, constitutes this new era of medicine and surgery to which the door of knowledge has been unlocked, flooding our pathway with a new light that shines with exceeding luster. It is now known that these germs, or bacteria, constituting, as they do, the chief causative factor in disease, are of different varieties—certain kinds corresponding to certain diseases, or, to be more specific, certain microorganisms that find entrance into the body evolve a toxin, or poison, that produces a certain disease in the body. The question of etiology, then, is no longer *subjudice.* Most fortunate, too, that such is the case, for, to have observed silence much longer regarding its position and accomplishments, the medical profession would have been in a position bordering on embarrassment.

The great barrier, however, has been removed, so let us press forward and, by way of digression, permit me to call your attention to a matter that has, for a considerable length of time, burdened my mind.

I refer to a closer relationship with the public. The gulf separating profession and lay is too wide. In the days (now happily gone by) when superstition was handmaiden to ignorance, an insuperable barrier between the two seemed necessary, for, how was it possible for the physician to conceal his own ignorance if he did not succeed in keeping his clients in the dark? There is no question but that the medical profession has been tinctured too strongly with occultism. Let us cast it aside and take the public into our confidence. Education along certain lines, has been confined too much to the ranks. It is the pabulum that builds up civilization and no advancement of a permanent nature will ever be made until the people at large be told the truth.

The public asks for no technical education or training—it has neither the time nor inclination in that direction; but the people should be enlightened to the extent that their health and happiness depend to a great extent on their intelligent coöperation with the profession; they should receive instruction along lines of hygiene and sanitation; be taught the value of pure food, pure water and pure air; be enlightened as to the hygienic inportance of bathing. The public should know and ought to appreciate the fact more than it does, that contagious diseases can, to a great degree, be prevented by proper sanitation and medical school inspection. There are many other ways of educating the public, but this is neither the time nor place in which to do it. I only make mention of the subject because of its growing importance.

The development of preventive medicine has greatly added to our responsibilities. We not only soothe the afflicted and alleviate human suffering, but we also seek to prevent disease, making us more than ever servants to the public. As a matter of absorbing interest to many, permit me to enumerate what has been done by way of progress in the cure and prevention of some diseases. Most of you, no doubt, are familiar with the history of smallpox. Formerly considered one of the most loathsome and fatal of diseases, what is it to-day? Almost entirely shorn of its horrors, it is no longer dreaded, and to hear of a death from smallpox is rare, indeed.

Of three epidemics of this disease in my home town since 1900 all were of so mild a nature and so modified in character that we local doctors had difficulty in convincing those who were familiar with it in the earlier days that it was smallpox.

Had there been less antagonism to vaccination and people had submitted more cheerfully to quarantine, and carried out more faithfully hygienic and sanitary laws, I question if there would be a case of smallpox in this whole country of ours to-day.

To whom are we indebted for this great boon to humanity? To none other than the immortal Jenner, of England; the man who was villified, degraded and cast into prison for the awful crime (?) of being a benefactor to mankind. Such is history. Rabies, or hydrophobia is described

as a specific, infectious disease, peculiar to certain animals, but may be communicated to man by direct inoculation. It is, beyond question, one of the most terrible of all infectious diseases, and the particular germ that causes the development of hydrophobia has not yet been discovered; but we need not despair of welldoing; a Moses will yet rise up and lead us out of the wilderness. We do know that after a person has been bitten by a rabid animal, it requires about six weeks for the disease to develop, and, when fully developed, the unfortunate victim suffers the most horrible agony, after which the paralytic stage supervenes. Unconsciousness is ushered in without convulsions, then death ends the scene.

Although there is, as yet, no known cure for hydrophobia when once the disease is fully developed, let us be thankful for a preventive treatment that will do much.

It was about the year 1885 that Pasteur gave to the world his method of preventive treatment, which consisted in making hypodermic injections under the skin of a virus which he prepared from the spinal chord of an inoculated rabbit. Other methods have from time to time been tested, and some of them proved to be more practical than his. All of them, however, are nothing more or less than modifications of Pasteur's method. The old adage that "an ounce of prevention is better than a pound of cure" was never more pertinent than in the case of hydrophobia. Instead of running all over the country in search of a madstone, as was formerly the case when bitten by a rabid animal, the victim now hies himself to the nearest Pasteur Institute and receives intelligent vs. faith treatment. Had Pasteur made no other discovery, nor devised any other treatment than this preventive treatment for hydrophobia, he would, undoubtedly, be one of the greatest benefactors to humanity.

There are several Pasteur Institutes not only in this, but in other countries where this preventive treatment is given, and the results have been very satisfactory indeed. The chief difficulty, however, is the enormous expense of treatment, and the long distance and cost of transportation to and from these Institutes. It is to be hoped that this difficulty will, as well as the cost of serum, in time, or in some way, be overcome.

Another dread disease, the mortality of which is appalling, and for which, up to the present time, at least, all curative measures have proven unsatisfactory, is that of tetanus or lock-jaw. An insignificant splinter, or a thorn in the hand, or a rusty or dirty nail in the foot, may be the starting point; or, if you please, a wound on the hand produced by one of those innocent looking toy blank cartridge pistols. Now, most of the wounds resulting in lock-jaw, are what we call punctured wounds, and the instruments that produce them are dirty; and, more than that, the point of entrance (usually hand or foot) is also dirty; making it a very easy matter for dirt to be carried into the wound. When we know that dirt or filth is the natural habitat of the tetanus bacilli, we can readily understand how tetanus or lock-jaw can develop from a punctured wound.

This death dealing bacillus was discovered by Nicolaier, but the Japanese physician Kitasato was the first to obtain it in pure culture.

This disease was formerly considered incurable after having reached the stage of full development. Even now, the results of treatment looking to a cure have not been satisfactory. A very few cases treated by the intraspinal injection of magnesium sulphate were reported cured, and the use of Behring's antitoxin has reduced the mortality about 15 per cent. On the other hand, the results in preventive treatment have been highly satisfactory. There is the best of evidence that, given a high grade of antitetanic serum, and begin treatment not later than 24 hours after infection, lock-jaw will not develop. As an example of the potency of serum treatment, I will mention that of Beneva, Switzerland, where 700 prophylactic injections of Behring's serum were given with but one case of lock-jaw. Hospitals and clinics all over the world give most encouraging reports of serum treatment in preventing the development of this disease.

Nor is this all. There are many other wounds as well as punctured wounds which, while not necessarily foci for the tetanus bacilli are, nevertheless, an open sesame for the introduction of other microorganisms whose virus is a bloodpoisoner, only of a different nature. Any accidental wound may be the starting point, or, it may develop from purposely made wounds, as in surgical operations. Ordinary bloodpoisoning is much more common than that which produces lock-jaw. Years ago and prior to the discovery of antisepsis by Lister, it was much more common than it is now; in fact, it was the surgeon's bug-a-boo, but the wonderful discovery by Lister of antisepsis has inaugurated a new era in surgery, and no operation is so difficult but what the surgeon will undertake it with confidence and with the satisfaction that he is master of the greatest dangers which threaten the patient's life—hemorrhage and infection.

I now turn to a disease that cannot but be of profound interest to many of you now present, for it is one of those afflictions so very liable to enter any family circle and by its ravages carry away those who are the light of the household. Although a disease of childhood, those who have reached adult life are not altogether exempt. I refer to diphtheria, an acute, infectious disease that develops in from 2 to 5 days after the subject becomes infected.

An attack, instead of rendering the individual immune, increases the liability to subsequent attacks. Like other infectious diseases, diphtheria is caused by a particular germ, the Klebs-Lœffler bacilli. The death rate of this disease prior to 1900 was nearly 50 per cent.; now it is about 20 per cent., or a decrease of over 50 per cent. since the introduction of antitoxin.

There is no question but that this remedy will not only prevent the development of diphtheria, but will cure the disease if the patient is not too near death's door at the time treatment is begun. Given a reliable

serum and use it early and always under strict antiseptic conditions, the death rate should be nil.

The bubonic plague, a disease indigenous to the tropics, and which at different times has raged in the form of rapidly spreading epidemics along the highways of travel, is loathsome and very fatal, destroying its victims by the thousands. We, of this country, knew but little about it, and had no occasion for alarm until about 1900, when it appeared on the Pacific coast. The first sufferer was a Chinaman who died after a brief illness. Since his death, a number of others have been stricken and died. In the year 1907, between May and November, there were 109 proven cases. Just what the future has in store for us I am unable to say, but with our present close relation with those countries where plague is always in existence, we stand facing a very weighty problem. We are indebted to Mr. Haffkin, a Russian scientist, more than to anyone else for preventing the spread of this terrible disease. He brews a serum, the daily injection of which will prevent the development of plague during an epidemic. Its potency is firmly established.

One other disease, almost universal in its scope, and the effects of which are familiar to many of you now present, is malaria. Nothing, you might say, was known of its cause until the year 1880, when Laveran discovered in the blood of patients suffering with this disease a parasite or germ which he called plasmodium malaria. Supplementing this discovery was that of Ross in which the source of infection was traced to mosquitos of the species anopholes. It is much easier now to understand that which, prior to these discoveries, was difficult of solution, viz.—that malaria prevails in those localities inhabited by this particular species of mosquito, and, too, during the seasons when they are the most numerous, spring and autumn. Being familiar with these facts, our duty in the matter of stamping out malaria was plain,—not only treat the disease as in former years and thereby effecting a cure, but, in addition to that, make everlasting war on the mosquitoes, kill them off and destroy their habitation or breeding places; then there will be no malaria to cure. We all know that quinine is a specific in the cure of malaria, but when it is possible to prevent the development of a disease, I feel sure that you will agree with me that the latter course is the proper one to pursue. That is the course the profession has been, and is now, pursuing all over the world, and the public at large has, to a considerable extent, been doing the same thing unconsciously, however, by draining off cesspools and low lying marsh lands that serve as breeding places for these disease purveyors, and converting them into fertile fields of grain that make for life and health rather than sickness and death. The results certainly justify the means, and there is no better example that I can point you to than in our own Mississippi valley. Prior to, we will say, 1885, this section of country was malaria ridden, and the mortality from this disease, both directly and indirectly was very high. It was rare, indeed, to find an individual who had not at some time or in some way experienced the

toxic effect of this malady. Some had their daily shake, some "every other day," and some every fourth day or "quotidian type." Another was called the "dumb ague," in which the patient did not shake, but experienced the cold stage in lieu thereof. Still another type went by the euphonious title of "pernicious intermittent fever" or, more commonly "congestive chills." You rarely hear these terms used any more. What, at one time, was common is now uncommon. Malaria is almost a thing of the past, but, lest we forget, permit me to quote a historian's graphic description of the decadence of ancient Rome. He says: "To-day, as is known, malaria is the scourge of the Hellenic peninsula. Endemic throughout the land, it saps the vitality, the strength, the virility of the people, carrying away, annually, its thousands of human lives. Through the shadows of departed years the light of ancient Greece shines with undying luster. The language, the poetry, the art, the philosophy, the ideals, the spirit of beauty, have been for ages and are to-day the inspiration of mankind. The sounding hexameters of Homer, the breath of Him, Aeschylus, ancient of days, whose word is perfect song, the creative genius of Phidias, the eloquence of Demosthenes, the wisdom of Pythagoras, of Socrates, of Plato, of Aristotle, beckon across the centuries to remind us that all the wealth of modern world has given birth to no loftier thoughts, to no higher ideals of life and beauty than those which sprang up by the waters of the blue Ægean. And to-day Pallas Athene dominates the elect of the world. The garners of Sicily are empty now, but the bees from all climes still fetch honey from the tiny garden plot of Theocritus." There is no trace of the literature of the early days of Ancient Greece, of the scourge which has since laid waste the land. But step by step with the spread of the disease which first made its appearance about 400 B. C. the historian traces the beginning of that fatal degeneracy which marked the fall of the race. A spirit of criticism, of jealousy, of pessimism, arose; discord, dissensions and civil strife followed, and in a few centuries the earthly abode of the gods was a mere tributary of the Roman Empire. Poisoned by the subtile influence of a preventable disease, the spirit which had produced the science, the beauty, the art of Ancient Greece faded from the world.

Soliloquizing, it seems strange that Greece, with all her boasted accomplishments in the arts and sciences could not, as it were, produce a Pasteur, a Laveran, or a Koch, to point her to a way of safety. By a similar process of reasoning, why should not we, in our own country, honor, more than we do, such names as Finley, Welch, Kean, Guiteras, Lazear, Agramente, Carroll, Reed, and a host of other medical men who are devoting their whole time, their talents and energies solely in the interests of science and humanity?

Two of those whose names I have just mentioned, Lazear and Carroll, submitted themselves on the altar of science to prove that a certain species of mosquito was the carrier of the infecting agent that produced yellow fever, and lost their lives. Surely no one can point to a greater

sacrifice, or one more worthy of high praise. As an example of modern methods dealing with disease, let me point you to what has been done on the Island of Cuba. On account of the heavy rainfall, tropical heat and indifference and ignorance on the part of most of the inhabitants, the island has been a hot-bed of malaria, dysentery, typhoid fever, tuberculosis and yellow fever. If there were any sanitary laws, there was little or no effort on the part of officials to enforce them, and, as a result the mortality was high. It has been demonstarted only too often that general laws in themselves, are insufficient to prevent the spread of infectious diseases. It can be done only through the cordial and general cooperation of an enlightened public with the medical profession, and, even then there are cases, it seems, in which the law must be invoked. In Cuba, the medical corps of the U. S. A., cooperating with local physicians, assumed control and, if reports count for anything, they certainly had their hands full. Yellow fever and the cause producing it was the chief enemy of attack. Every case, or suspected case of yellow fever was reported at headquarters, and every house, building or hovel that contained a case or even a suspected case of fever, was promptly quarantined, fumigated and enclosed with proper netting. Every mosquito inside these premises was killed. All trenches, low lying marshy spots, and pools of stagnant water, that served as breeding places for mosquitoes, were drained off and the ground broken up. The result of this crusade was that in seven months the disease was entirely banished from the city of Havana. It required only a little longer time to rid the whole island of yellow fever, and the death rate from other diseases has been greatly reduced as a result of this war on disease and disease purveyors.

It was formerly necessary to quarantine all ports of entry to the island at certain seasons of the year on account of this yellow fever epidemic, but that is now a thing of the past. Sanitary officials, however, should not for a moment relax their vigilance, nor should the general public be neglected in the matter of education along sanitary and hygienic lines. Another example of the results of scientific endeavor and I will have done.

I refer to the herculean task undertaken by the United States government in the digging of the Panama Canal. Many of you now present probably remember how the French Government, with De Lesseps as chief engineer, endeavored to accomplish the same task and made such a dismal failure. This failure on the part of the French was not due to a lack of funds, nor to a modicum of energy or of mechanical skill. The French are energetic, if anything, and are noted the world over as possessing mechanical skill of a high order. What then, you ask, was the cause of their failure?

The answer is, nothing so much as the dreadful and continued mortality among the laborers, particularly the ones who were imported. It is true there was considerable fraud, dishonesty and embezzlement practiced, and it did much to bring about De Lessep's failure. But these factors

have been, to a great extent lost sight of in comparison with the hopeless unhealthfulness of the Isthmus. The terrible scourges of yellow fever at certain seasons, the blighting effect of malaria in all its various forms; the ever present white plague that makes continual call on the grim reaper; the filthy labor camps; pioneer life and hardships incident thereto, were too much for the French and their efforts were in vain. Up to 1902, the canal zone was considered the unhealthiest spot on the face of the globe, having no rival in that respect. Another has said, "it has been looked on as a vast grave yard for those not indigenous to the soil who have gone thither." Fronde declared, in that superb English of which he was so great a master, that "nowhere on earth was there concentrated in a single space so much foul disease, such a noisome mass of moral and physical abomination."

This is certainly a most grewsome picture and yet one that could not be successfully controverted. To-day we find yellow fever driven from the Isthmus; malaria, pneumonia, typhoid fever and other diseases of high mortality, greatly reduced, and a high average of health established. Col. Gorgas, of the United States Army and his associates in medicine have made it as healthy and as infection free as any country in the world. The last case of yellow fever occurred in Panama about two and a half years ago.

During 1907, Col. Gorgas did not have a single case of bubonic plague to deal with and in that year he had but one death from smallpox. His death rate in 1907 was 31 per cent. lower than that in 1906. To sum up, he had during the month of March, 1907, 36,000 employees under observation, with 122 deaths. During the corresponding month of this year, he has supervised 43,000 men with only 45 deaths, the mortality being less than that of New York City. Among those who know the situation, there is no doubt but that the canal will be completed within a few years. Modern civilization furnishes no better example than this of possible victory over pestilence and disease, when the warfare is carried on in the light of modern scientific knowledge.

And this is progress, "triumphal progress"—as one of our number, so recently called to his reward—put it. We glory in what has been accomplished so far in protecting mankind from the ravages of disease, but we have only made a beginning—a skirmish preceding a long and continuous campaign; a succession of fierce combats with the causes of infection and contagion. Mistakes have been made as well as triumphs obtained; let us learn from both.

Our calling is just what we make it. Let us see to it that it is used to the best advantage for all; let us strive for unity of action and harmony of thought; let us suppress as a venomous reptile any one who would breed contention, conflict and hate, and, above all, let us have enthusiasm. "Enthusiasm is the motive force of all progress. Nothing of any real consequence was ever accomplished without it. It took Cook to the Southern seas; it lured Gama around the Cape; it called De Haven

to seek for Franklin in the awful solitude of the frozen North; and it beckoned Columbus across the ocean from Palos to the Indies. Because of it, the explorer tracks the dusky canon, and the hardy miner 'bleeds the veins' of the mountains; the navigator seeks the Northern Pole, and the student prints on his face the unobliterable lines of thought.

"It carved the Belvidere Apollo, and it painted the Sistine Madonna. It struck fire from cold flint and it saw in the steam wreaths from a teakettle a force greater than that of all men in the world united. It bridged the Hudson, and laid the gleaming steel of civilization on the summits of the mighty Rockies; it took signals under the ocean; it carried messages through the air; it stored up speech in reservoirs, and it harnessed the lightning to serve man's purpose." It was enthusiasm that solved the problem of aerial navigation; "it discovered the ligature; it introduced vaccination and anesthesia, and it laid the gentle hand of healing on the wounds of humanity through antiseptic surgery. We note its presence in the aphorisms of Hippocrates, in the demonstration of Newton and in the discourses of Pasteur. It was with Alexander in the field as he conquered the world, and with Plato in the grove as he founded philosophy.

"It was by the lonely camp of Celsus, and behind the sightless eyes of Galileo. It was on the battlefield with Paré and with Larrey," and in the laboratory with Welch and Leidy, with Boston and Flexner. It was in the hospital with Gross and Agnew and McBurney and Senn. It stimulated the labors of Washington and Cromwell, of Shakespeare and of Franklin, and it lit the councils of Caeasr and of Lincoln, of the great Napoleon and of England's 'Grand Old Man.' "

May we feel it; may we realize it; may we be driven by this divine fire!

MALARIAL INFECTION IN CHILDREN.*

By Scott P. Child, M. D., Kansas City, Mo.

During the months of July, August and September, 1908, out of seventy patients treated in Mercy Hospital, Kansas City, there were diagnosed by the demonstration of the organisms in the peripheral circulation five cases of malaria, occurring in children between the ages of seven and sixteen years, with a mortality of 20 per cent. Three other cases gave clinical evidence arousing suspicion of malaria, but during the time they were under observation their blood at no time revealed the

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plasmodia. During this same period there was only one case of typhoid fever in the hospital.

Of the five cases of malaria one was a pure tertian, three æstivo-autumnal and one a mixed infection of tertian and æstivo-autumnal. The æstivo-autumnal cases were chronic in form and revealed in one or more instances, a blood picture of true pernicious malaria.

The histories of these cases, their hematology and symptomatology during observation, and their course under treatment with delayed diagnosis from blood findings, afford a justification for the presenting of this material, which is given in the form of case reports:

Case I. Lawrence Hart. (Service Dr. Jerowitz.) Aet. 7. Entered hospital September 25. Discharged October 6. History negative save for present acute illness. Examination of peripheral blood revealed a pure infection of the tertian parasite. Hypodermic injection of the hydrochloride of quinine and urea caused an immediate cessation of the chills and a disappearance of organisms from the peripheral blood. The injection was unattended by any pain or any subsequent inflammation or necrosis.

Case II. Berna Bright. Diagnosis—Mixed infection of tertian and æstivo-autumnal malaria. Aet. 15 years; employed in box factory in Kansas City, Mo.; lived at Boys' Hotel; came to city June 1, 1908, from Independence, Kansas, one mile from river. In July was camping for several days on the banks of the Indian Creek, ten miles south of Kansas City. Family and past personal history negative.

History of illness: Patient entered hospital on Friday, August 28th, having a chill at 12:30 p. m., followed by rise of temperature and subsequent free sweating. Gave history of typical paroxysms on the preceding Sunday at 6:00 p. m., and on Tuesday and Thursday at 11:00 a. m.

Physical examination, on the 29th, revealed a well nourished and normally developed lad complaining of intense headache. Lingual temperature was 102 F.; body surface very dry; forearms, hands and legs were mottled with large areas of ecchymoses; eyes suffused and dull; lips dry, with herpes; teeth covered with sordes; tongue only slightly coated and tremulous. Radial pulse 88, regular, fair tension; feet and hands cold; heart and lungs negative; liver normal as to size and absence of pain. The spleen was enlarged both to percussion and palpation, extending well below border of ribs; slight tenderness was elicited on pressure of spleen, as well as over general abdomen. Tympanites was absent; intestinal and renal secretions were negative.

From a periodic standpoint the paroxysms observed were quotidian, occurring at about the same hour for three days; the highest temperature attained was 104 and 2-5 degrees; prostration and headache were marked during height of fever; herpes labialis persisted throughout illness, gradually disappearing on reduction of temperature; the pulse

though of fair volume became very slow, going as low as 50, and standing at 58 on discharge.

Blood analysis and treatment. On the 29th, the day following admission to hospital, an examination of the peripheral blood demonstrated the presence of the tertian malarial organisms alone, active and in abundance. Under quinine sulphate, gr. xv. by mouth, daily for two successive days, during low morning temperature, the tertian organisms disappeared. A paroxysm occurred however on the third day, with temperature more than two degrees lower than the day preceding, the peripheral blood then revealing a pure infection of the æstivo-autumnal crescents; no tertian forms being demonstrable. The mixed infection was verified by careful re-examination of the smears, by both Drs. Castle and Brewster of Kansas City. It is quite probable as suggested by Dr. Castle that this was a case of "tertian engrafted upon a chronic æstivo-autumnal."

The subsequent treatment was a gradual decrease in dosage of the quinine sulphate, by the mouth, every six hours for three days; then nightly doses of ten grains for a week. On discharge of patient ten days after occurrence of the last chill and sixteen days from the date of first recognized paroxysm he was free of all symptoms, and his peripheral blood for several days had shown no malarial organisms. Some two months subsequently patient was seen, having had no symptoms referable to malarial infection in the interval.

Case III. Layman Hobson. Diagnosis—Chronic æstivo-autumnal malaria. Aet. 10 years, from a farm at Benton, Missouri, some 17 miles north of Kansas City. Family and personal medical history negative. Entered hospital on September 8th, 1908, with a temperature of 99 degrees, stating that he had been ill for two or three weeks, having had chills every two or three days, the last chill having occurred on Friday, September 4th.

Physical examination revealed a poorly nourished child complaining of no pain or discomfort, with a general skin surface of a peculiar saffron, waxy hue. Crusts on both lips on admission said to have been preceded by ulcers of previous week; probably herpes. Examination of lungs, heart, kidneys and liver negative. The spleen was enlarged to percussion and palpable below border of ribs on deep inspiration.

Blood examination. On admission hemoglobin was 50 per cent., Talquist scale; erythrocytes 3,800,000; leucocytes 3,800; numerous macrocytes and microcytes; megaloblasts and a polychromophylia. This picture persisted for some time, and early brought up a possible diagnosis of a true pernicious ænemia in the inability to demonstrate malarial organisms.

The temperature remained practically normal until the 17th of the month, when it ascended without chill to 101 degrees; on the 18th to 102 degrees, and on the 19th, preceded by a severe chill at 2:00 p. m., to 105 degrees; the blood then revealing numerous æstivo-autumnal organisms in crescent form.

In the interval of low temperature of the 19th, quinine sulphate, gr.

xv., were given by the mouth. A paroxysm, with temperature rising again to 105 degrees, at 2:00 p. m., occurred on the succeeding day. The temperature remained high, above 103 degrees for nine hours, then gradually descended to 95 degrees per lingua, with a pulse rate of 52. Quinine sulphate gr. xv., with dilute hydrocholoric acid, were administered on this day when temperature had reached 99 degrees F. No recurrence of paroxysms, nor rise of temperature followed the second observed chill. The temperature rose slightly, but remained subnormal, 96 to 98 degrees, for nine days, with an associated weak, irregular and slow pulse running from 52 to 72. Then the pulse and temperature became more regular, and on discharge on the 24th of October, they stood respectively at 80 and 98 degrees. No plasmodia were discovered in the peripheral blood at this time, and the general blood picture showed improvement.

Cinchonism followed both large doses of quinnie, but with no serious results. At intervals pain was complained of in splenic region on deep breathing.

Case IV. Dewey Gordon. Diagnosis, chronic æstivo-autumnal malaria. Aet. 10; father has pulmonary tuberculosis. Previous personal medical history negative, save that for past year has had a persistent dry cough. For two or three weeks previous to admission, July 25th, had been having a recurring temperature arousing suspicion of typhoid, and in view of father's illness a question of possible tuberculous infection.

Physical examination on admission revealed a pale, emaciated lad with prominent eyes and wan expression; thinly coated tongue; herpes labialis; an absence of enlargement of nuchal and submaxillary glands. On the right side of chest at the junction of second rib with the sternum a marked bulging existed, but without other local signs; ausculatory and percussion signs over lungs and cardia were negative; abdominal signs negative save for percussable, palpable and slightly tender spleen; renal findings negative. Subjectively, patient complained of slight headache, with pain and extreme weakness in muscles of extremities.

Blood examination. On admission the blood gave a percentage of 60 per cent. hemoglobin, Talquist scale; a negative Widal reaction and no evidence of malarial organisms. For a period of some six weeks, the patient being on tonic treatment and extra nourishment, but with no specific medication, no distinct chill was observed though there were one or two short intervals of chilliness. Several searches for plasmodia in the peripheral blood failed to demonstrate them. The temperature varied from 96 and 4-5 to 102 and 2-5, but without hourly or daily periodicity. During this interval general improvement was noted in patient, the herpes disappeared and the spleen reduced in size. On the 5th of September, however, the child went to bed with a subnormal temperature complaining of chilliness and the spleen was found markedly increased in size and decidedly tender. An examination of the peripheral blood at this time showed large numbers of active crescents of the æstivo-autumnal organisms—and this the first time demonstrated. The temperature remained

low and mostly subnormal from this time on until discharge, rising once to 99 and ⅕ degrees F. without any periodicity.

Treatment. This was instituted as soon as the organisms were demonstrated. Quinine sulphate and dilute hydrochloric acid had no effect in lessening activity or numbers of crescents, so hypodermic medication of hydrochloride of quinine and urea, deep in the tissues of the gluteal regions, was resorted to on September 7th. The first course consisted of hourly doses of six grains each until 24 grains were given. The blood examination the next day revealed no apparent impression on organisms. Hence a second course, of eight grains every hour until six doses were given, was resorted to on the 9th and the 11th of September respectively. This was associated with a lessening in the activity and a contraction of the crescents and slight reduction in number, but not their destruction. Quinine sulphate was administered by the mouth for a considerable interval thereafter and the gradual reduction in number of organisms led to the hope that the profound infection was controlled. But on the 26th of the month large active crescents were plentiful in the peripheral circulation and apparently multiplying. Save for slight nausea and dizziness the previous hypodermic injections had produced no unpleasant symptoms, and it was decided to resort to larger doses of the urea and quinine, and accordingly twelve grains were given every hour for six doses. This caused a disappearance of the organisms from the peripheral circulation, an improvement in the general symptomatology of the patient and a reduction in size of spleen. On his discharge, October 3rd, no organisms were found in the peripheral blood. The subsequent history would indicate no recurrence, up to date.

Case V. Sadie Graham. (Service Dr. Jerowitz.) Diagnosis, æstivo-autumnal malaria. Aet. 13, from Sheffield, a suburb of Kansas City on the banks of the Blue River. Came to Mercy Hospital on the 22nd of August, in a semicomatose condition, with a provisional diagnosis of typhoid fever. A brother, 10 years old, died on the day previous, of supposed typhoid; father also ill. The patient presented a most anemic and cachectic appearance, the skin had a peculiar greyish-brown tint, was profoundly ill, with a tembperature of 103 degrees; pulse 154, very irregular and weak. The pulse growing increasingly weak, played from 140 to 160, though at times too feeble to note at wrist. With a temperature rising daily from 103 degrees to 106 degrees, unconscious or delirous a greater part of the time and with no response to specific medication, she died on the 28th day of the month, the sixth day following admission. The renal analysis was negative. Quinine per mouth and hypodermically was without effect.

For the following blood analysis and autopsy findings I quote from Dr. Castle's comprehensive report:

Hemoglobin	15%, Talquist and Dare's scales.
Erythrocytes	1,300,000.
Leucocytes	6,000.
Widal	Negative.

Stained film showed many macro and microcytes with some poikilocytes. Normoblasts noted. About 60 per cent. of the erythrocytes were infected with "signet ring" forms of the pernicious malaria organisms, 1 to 7 organisms in a red corpuscle. No sexual or crescent forms of malaria plasmodium found.

Autopsy done by Dr. R. B. Brewster, 8 hours following death. The main cut was remarkable for the almost absolute dryness of all tissue. Not until thorax was entered did a drop of pale blood flow. All viscera very pale. Lungs showed some atelectasis, otherwise negative. Heart showed some brown atrophy.

Liver and spleen not enlarged. Spleen of a peculiar bluish-lead color, and of soft consistency, Malphigian bodies not plainly marked. Genitourinary organs negative. Vertebral and sternum bone marrow dark red. Smears made from spleen, liver and bone marrow. Tissues fixed in formalin, methyl alcohol and Funker's solution.

Microscopic findings: Much melanin in spleen and liver, also in lungs, kidneys and bone marrow. Pigment intra- and extracellular. Hemosiderin in liver and spleen. Bone marrow showed enormous increase in normoblasts, *i. e.,* reaction to anemia. All lymphoid tissue in gastrointestinal tract and mesenteric regions showed marked hyperplasia. In omentum were noted some encysted parasites, the exact nature of which has not been determined.

In summarizing microscopic findings there is to be noted:

1. The profound ænemia.
2. The marked reaction of hematopoietic system.
3. The pigment of blood destruction, hemosiderin and melanin; the former giving iron reaction, the latter not.
4. The encysted parasites.

In reviewing these cases certain characteristic symptoms impress the observer, *i. e.,* herpes, headache, frequent micturition, languor and absence of local pain. Anemia was marked in all of the æstivo-autumnal cases and suggested a true pernicious variety in two of them. Typical paroxysms present in the tertian, but not in the æstivo-autumnal type. During relatively long periods in the chronic forms the peripheral blood failed to reveal the organisms, though when appearing later did so during low and subnormal temperature.

In the chronic æstivo-autumnal cases, sudden changes in size and tenderness of spleen occurred with accompanying change in number of parasites in peripheral circulation. This not necessarily accompanied with rise of temperature or typical paroxysms.

During low temperature and convalescence in both tertian and æstivo-autumnal malaria a slow pulse is noted. Since quinine physiologically lowers the heart rate, this would naturally be expected, but it is quite probable that the removal from the circulatory stream of the organisms as an active irritant plays some part in this symptom.

The blood and autopsy pictures demonstrate clearly the great destructive power malarial organisms have over animal tissues. The corpuscular elements of the blood are absolutely reduced in number and destroyed and strive hard to replace themselves, as shown in the various forms assumed by the red cells and the phogocytic action of the leucocytes. Bone marrow, liver, spleen, and kidneys all show change due to presence of parasites, and the glandular and lymphatic systems in general undergo change indicating their struggle to protect the system.

The use of the hydrochloride of quinine and urea demonstrated its value, its safety, less marked cinchonism, and, under careful antiseptic precautions, an entire absence of unpleasant results following its hypodermic administration. In my own cases I used the deep injection into the gluteal muscles, after thorough sterilization of the skin surface and the subsequent protection with cotton and collodion. No sloughing, suppuration, necrosis or long persisting induration followed, nor was pain complained of at any time.

603 Bryant Building.

OCULAR EXAMINATION AS AN AID TO PROGNOSIS IN OTITIS MEDIA SUPPURATIVA.*

By Dr. W. Emil Klokke, M. D., St. Louis, Mo.

I am led to believe that physicians doing a general practice do not seriously regard a discharging ear. Only the other day a physician of good education, lightly dismissed such a case in his own family saying in answer to my queries, "it was nothing, it got well within a few days with peroxide syringing." Is he watching to see the result of such syringing on the ear of his child?

After complete or partial loss of the membrana tympani, we have more or less constant discharge. For a time such cases may show a dribbling discharge, particularly in the morning, or every few days a trace of moisture is found in the canal. This may be all the patient notices for years. Then the case is presented to the physician, possibly first on account of the eye symptoms, or intracranial symptoms, or both. He finds a disease which has slowly yet surely been working to break down the barriers in its path to the brain. It is often difficult to determine the extent of the invasion. Is it still a superficial process? Has the bone been eroded? Are there pressure symptoms? Does there exist deep necrosis

*Read in the Eye, Ear, Nose and Throat Section, Fifty-second Annual Meeting, Missouri State Medical Association, Jefferson City, May, 1909.

of bone with the probability of sinus trouble, and involvement of adjacent sinuses or subdural, cerebral or cerebellar abscess?

The solution of the problem will be easier if we take into account the ocular as well as the aural signs, and the prognosis based on the information thus gained will be more accurate. We can better estimate beforehand whether, in addition to a radical mastoid operation, we must be prepared to open the labyrinth or seek the site of a subdural or cerebral abscess, or deal with a sinus thrombosis, with or without petrosal or cavernous involvement.

After the radical mastoid operation many patients develop symptoms of sinus trouble within twenty-four to thirty-six hours; and a sinus operation is then undertaken, very frequently with a fatal result. I believe in watching closely the ocular signs, which when present may inform us when to open the sinus, or may give us an idea of the extent of a sinus thrombosis. When one feels a sense of surgical safety he is then in great danger of doing the wrong thing. For instance, it is decidedly improper to open a labyrinth when no pus infection exists. Many cases of labyrinthitis serosa, which only have swelling of the lining membrane with an outpour of serum, give rise to certain pressure symptoms which will promptly disappear after the Stacke-Schwartze operation. Now, where through fistula of the labyrinth, or necrosis, a meningitis, exists, we should seek all possible sources of information and should bear in mind the possible ocular as well as the aural signs. Most satisfactory indeed is the otologists' method of diagnosing labyrinthine diseases, *i. e.,* production or nonproduction of nyastagmus in examination of the labyrinth is performed in three ways. Normally we find:

1. Rotating the patient to right—nystagmus to right.
   Rotation continued—nystagmus stops.
   Rotation stopped suddenly—nystagmus to left.
2. Pressure or suction.
3. Caloric test—Injection of warm water 120°F., nystagmus to same side.
   Injection of cold water, 65° F., nystagmus to opposite side.

These tests give us evidence of an erosion, or complete destruction of the labyrinth. It should be added that cerebellar abscess or tumor may show a spontaneous nystagmus of the affected side, or an insidious form of meningitis, *e. g.,* the tuberculous, may also evoke this phenomenon. Additional diagnostic aid may there be sought by investigating the ocular signs. The ocular complications of meningitis include: Xerosis cornea, suppurative irido-choroiditis, central scotoma, and papillitis. Papillitis is the most common ocular complication in extension to the brain of otitis media suppurativa, especially the tuberculous form. In the latter the disc is dull gray and whereas other forms of optic neuritis show hyperemia, this form shows almost an ischemia.

We have in the ocular examination alone a positive means of esti-

mating the extent of the disease and the probable bone destruction. Should the ophthalmoscope reveal tubercles of the choroid, the prognosis is grave.

Abducens paralysis and ptosis are occasionally observed. Duane states that, "especially the otitic abscess of the temporal lobe may cause a paralysis of the third (rarely of the sixth) nerve. Being associated with other symptoms of pressure, especially optic neuritis, and a crossed hemiplegia."

We were taught that in meningitis the pupils were contracted. Equally contracted pupils are very inconstant in the class of cases I offer for your consideration. Serous meningitis quickly develops from aural disease and is ushered in with rapid pulse, high temperature, delirium and pressure symptoms. In these cases ocular signs are very prominent, especially diplopia, abducens paralysis, ptosis, and optic neuritis due to basal origin.

In aural disease we must look for inequality of the pupils. Subdural abscess and cerebellar abscess have a train of symptoms chiefly of pressure, and frequently are accompanied by choked disc.

Aside from fever and pulse rate, brain tumor and brain abscess have a very similar symptomatology. C. P. Knapp states that 80 per cent. of brain tumors show optic neuritis. Optic neuritis occurring in the course of middle ear disease may indicate the formation of an abscess as a result of destruction of bone with transmission of the germ-laden fluid along the meninges.

Immediately before such invasion there occurs slow pulse, vomiting, vertigo, nystagmus, even inequality of pupils, dimness of vision, metamorphopsia and inability to fix. With intracranial invasion, other than sinus thrombosis, we have the usual signs of meningitis.

In tuberculous cases, tubercles of the choroid as well as choked disc may be present. Spiller says that "often neuritis is present in basilar meningitis and choked disc in cerebral tumor. An abscess on the right optic thalamus, in addition to occipital pain on the affected side and vomiting, had double optic neuritis, weakness of the face and limbs of the opposite side, a tendency of the patient to turn to the right and to fall backward. Furthermore," he says, "nystagmus is to be regarded also when an infection focus is localized in small areas, as may be from extension of ear disease. Such abscesses give a train of symptoms very closely resembling brain tumor."

Naturally an abscess has a shorter developmental stage, cerebral abscess being often accompanied by purulent meningitis. From his wide experience, Mr. Marcus Gunn, of London, concludes that in brain tumors the neuritis is of higher grade on the side corresponding to the lesion. The intracranial causes of choked disc in order of frequency are meningitis, tumors, gummata, sclerosis, tubercle, cysts and aneurysm. In children tuberculous meningitis is the most common cause.

With regard to abducens palsy, this may or may not be unilateral.

Inequality of the pupils has been observed in tumor of the corpora quadrigemina. Spiller states that "in at least two of my cases of pontal lesion the pupil was smaller on the affected side, showing that the iris nerve fibres pass through the pons." In two of his cases spontaneous nystagmus was present on opposite side of the chief lesion, causing weakness of external recti muscles from pressure upon or direct involvement of the nucleus of the abducens nerve. Nystagmus may be the result of paresis of the ocular muscles. Care must be used and not consider such as lobyrinthine.

A case mentioned by Dr. John J. Kyle, of Indianapolis, showed, one week after operation for acute mastoiditis, delirium lasting two weeks, temperature varying between 100° to 105°, some pressure symptoms; in spite of these choked disc was not present. No secondary operation was performed—recovery resulted.

The following case is interesting. I report it through the kindness of Dr. Nietert, of St. Louis, only briefly reporting the findings. Two months before Dr. Nietert saw the case the young man had dizziness, a tendency to fall, previously pain in the ear, also headache, believed to be due to ear trouble. A blister was applied over the mastoid, as acute mastoiditis was considered to be developing. When the doctor saw the case first the prominent symptoms were stupor, frontal pain and photophobia. The first ocular examination showed the pupils equal, veins slightly engorged, otherwise fundus normal. Two weeks later slight choked disc somewhat more marked on the right side was found. Aural examination showed nothing, even an intact membrana on the affected side. The first operation was opening the frontal sinus from below. There was no pus present or any abnormal condition. The second operation was a craniotomy in the frontal region. The dura was loosened down to the crista galli, at the sides down to the falx cerebri and posteriorly as far as possible. The brain was soft and pulsating but Dr. Nietert thought he could determine a slight increase in intracranial pressure. The young man suddenly died during the night two weeks after the operation. Both operations were followed by healing *per primam.*

At the post mortem a large abscess, egg size, which had about it a distinct membrane, containing thin pus, indicating infection of a cyst, was located in the midcranial fossa.

This case bears out that, irrespective of location, whether optic thalamus, corpora quadrigemina or that part of the cerebrum in the midcranial fossa, distinct ocular signs do arise. It was stated that the aural examination revealed nothing, even an intact membrana tympani. The origin of the abscess remains an unsettled question.

I also wish to report the following: October 16, 1908, J. H., aet. 23, office man, thin, rather pale, large boned, came to me for relief of spots before his eyes, at times inability to see, and dizziness. At times he speaks

hesitatingly. His family history is negative. Examination, O. D. V. and O. S. V. 6/6, no refractive error. Opthalmoscope shows normal fundus, through pupils which are evenly dilated. On looking to the right a nystagmus is elicited. It appeared that he had headaches at times over the frontal region and running also to the right ear and to the neck. He had had a discharging right ear seven years ago, and had been treated at times for same and had lately again been under his family physician's care. Pulse 80, temperature 98.6°.

Ear examination: Rinne negative for all but C 4 and C 5. Externa and canal (which is large) normal, membrana practically all gone except a slight upper anterior crescent. No ossicles visible. On washing, granulations show bright above and posteriorly, a blackened promontory showing below. Warm water syringing develops nystagmus to the right. Tests for rotary nystagmus give normal reaction right and left. I treated him by removing the granulations, using chromic acid cautery, silver nitrate, dusting powder and dry packing for a month.

November 20th he submitted to curettage of the attic; result, considerable debris and cholesteatomatous material, but no ossicles. The probe showed bare bone above and passed ¾ inch back into the antrum and a cavity. On awakening from the anesthetic he developed spontaneous nystagmus to the right.

November 21. Feels well, pulse 80, temperature 99°, nystagmus present.

November 22. Moderate discharge, nausea, constant vertigo and nystagmus to right, right pupil smaller than the left, other pupil reactions normal, has normal fundus.

November 23. Above symptoms much increased. Vomits the instant he sits up. Pulse 50, temperature 100.6°. Right pupil contracted, photophobia, metamorphopsia. Disc normal, speech hesitating, mental apathy. About the ear is no pain or swelling.

The following day I performed the radical mastoid operation, making the usual skin incision, and encountered a very hard, thick mastoid all the way down to the antrum. No cells, but beginning with the antrum a large cavity extended backward containing cholesteatomata and granulations. The median wall of the cavity was the well polished, bony plate covering the sigmoid. The facial was located deep. No fistula were found. The canal was packed, wound closed, after doing the Stacke plastic from below.

November 25. His ocular symptoms have left excepting pupil still smaller on right side. Nystagmus of lessened degree. Fundus normal.

November 26. Pupils both equal. Sees his surroundings clearly and has no nystagmus. Recovery uneventful.

Not being able to estimate the extent of disease by any one of its signs, especially so in diseases affecting the head, I feel that in many

cases it is imperative that with aural examination, goes ocular, hand in hand.

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509 Century Building.

DISCUSSION.

Dr. Klokke, in closing, stated in answer to Dr. Scholz, that he did not consider it too late to operate when a choked disc was present, but agreed with Dr. Barck that simple otitis is never accompanied by ocular symptoms. Fullness of the jugular vein is not an exact symptom. MacEwen holds that contracted pupils indicate only irritative conditions.

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ADDRESS ALL COMMUNICATIONS TO METROPOLITAN BUILDING, ST. LOUIS, MO.

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EDITORIAL

THE COUNCIL ON PHARMACY AND CHEMISTRY AND ITS RELATION TO THE UNITED STATES PHARMACOPEIA.

The recent election of Dr. George H. Simmons, Editor of the *Journal of the American Medical Association,* as a member of the Board of Trustees of the U. S. Pharmacopeia, is a recognition of compelling force of his remarkable talents for constructive organization and executive direction of the affairs placed under his control. It is, furthermore, a pronounced recognition by the highest authority on pharmacy in this country of the important mission which the Council on Pharmacy and Chemistry fills—a fitting climax to the reform in therapeutics instituted and prosecuted by that body—and will have a far-reaching influence in the convention for the tenth decennial revision of the Pharmacopeia at Washington next May.

For the medical profession this means that the next edition of the Pharmacopeia will again partake of the nature that its originators—the physicians—intended it to have, *i. e.,* a compilation of drugs and their uses arranged primarily for the information of the physician and, secondarily, for the guidance of the pharmacist in filling prescriptions. For the pharmacist it means that pharmacopeial preparations will become

popular with physicians and preponderate over non-standardized articles and articles of unknown or unreliable composition, in prescription writing. Thus the best interests of the physician, the pharmacist and the patient will be subserved and the science of therapeutics distinctly advanced.

When it was first organized the Council on Pharmacy and Chemistry met a cold and stubborn front in some quarters of the pharmacy profession,—a feeling that was shared by a few uninformed physicians—but with a clear understanding of the real intents and purposes of the work, all right-minded physicians and pharmacists quickly abandoned their antagonism and unreservedly supported the reform.

The most recent instance that has come to our notice of a drug journal openly supporting the Council is the *Midland Druggist and Pharmaceutical Review.* Hitherto lukewarm, not to say indifferent, to the work of the Council, the *Midland Druggist* now becomes unequivocally supportive of therapeutic reform by endorsing the Council and its work and applauding the election of Dr. Simmons to the Board of Trustees of the U. S. Pharmacopeia, in words which will go far toward removing all apprehensiveness that either the Council or Dr. Simmons might favor any action that would have an adverse effect upon pharmacy or the pharmacist. In the December, 1909, issue of the *Midland Druggist* we find a contribution from Dr. Puckner, Secretary of the Council on Pharmacy and Chemistry, especially prepared for the enlightenment of pharmacists in relation to the work of the Council, a biographical sketch of Dr. Puckner and also of Dr. Simmons.

The vast fund of information at the command of the Council concerning every phase of the manufacture and sale of pharmaceuticals, not only in this country but also in Europe where many of the preparations sold in the United States have their origin, will place before the convention a store of knowledge relating to the drug industry that has never been approached at any previous convention. Under these circumstances there can eventuate only influences for the highest good for both medicine and pharmacy.

THE STATE'S RESPONSIBILITY IN THE PREVENTION OF DISEASE.

The cause of disease prevention is attracting the supportive influence of very many organizations outside of the medical profession. The instinct of self-preservation is being rapidly lifted out of the narrow channel that has hitherto confined it to times of threatened physical as-

sault or impending catastrophes, and given that wider and broader application which includes self-protection against diseases that the achievements of medical science have shown to be preventable. Pursuing this thought to its last analysis, we fetch up at the proposition of the State's responsibility for the sacrifice of lives that can be and ought to be preserved.

This responsibility of the State in the conservation of life is graphically portrayed in a paper, "The State and the Death Roll," by Mr. E. E. Rittenhouse, President of the Provident Savings Life Assurance Society of New York. "Over 600,000 human lives are needlessly sacrificed in the United States every year," is the opening declaration to smite the reader's credulity; and, as if this were not enough to stagger belief, Mr. Rittenhouse lays a further strain upon the imagination of the uninformed by affirming that "there are 3,000,000 persons seriously ill in the United States, at all times, more than one-half of which illness is preventable."

Unbelievable though it may seem, these statements are in reality practically correct. How often does the physician see organic disease which he knows could have been prevented form developing to the stage of incurability had it been seen in its incipiency? Much chronic invalidism can be obviated and vast numbers of people kept in comparatively perfect health if abnormalities are discovered in their early stages.

This is where the intervention of the State should enter, according to Mr. Rittenhouse's argument. In answer to his own query, "How Can the State Improve These Deplorable Conditions," he says:

> It should enlarge its health department work in two directions: *First.* It should put into effect at once a systematic and permanent campaign of education for the prevention of disease of all kinds by the distribution of health bulletins and the liberal use of health and medical inspectors, and by other methods.
>
> *Second.* It should give free medical examination, periodically, to any who may desire it, for the purpose of detecting disease in time to check or cure it.

There is a soundness and a saneness in these views which should arouse the State and the nation to abandon the indifferent attitude now so manifest toward the preservation of the health and lives of the people, and cause them to establish a practical system of instruction in well-recognized methods for protection against the encroachment of those diseases which can be prevented when brought to the attention of the physician at an early period of their existence. If this cannot be accomplished by less harsh measures, laws should be enacted compelling all persons to undergo physical examination at certain specified periods.

THE INFLUENCE OF THE COUNTY MEDICAL SOCIETY.

An illuminating example of the usefulness of the county medical society, when it is active, live and earnest in applying its influence to the solution of the practical problems that affect the health of the community, comes to us from the Greene County Medical Society. The Springfield physicians, members of the Greene County Medical Society, have had under investigation for some time a plan for supplying the city with pure water. At present the water is obtained from two springs located in the hills several miles from the city; and, ordinarily, it is quite satisfactory for all purposes. Occasionally, however, in the fall and spring of the year, freshets from the hills discolor and vitiate the healthfulness of the water, and carry into it animal and human excreta from surrounding farmlands. There is no filtration plant at Springfield at present. A recent outbreak of typhoid fever aroused the citizens to such a pitch of indignation that a strong feeling grew up in favor of city ownership of the water supply. The water company, a private corporation, as a matter of course, aggressively antagonized this sentiment and countered by offering to filter the water from Ritter Springs and pass the water from Valley Mills Spring through flood gates and several miles underground to obtain the same result as by filtration. Here the town people called upon the county medical society and asked for the appointment of a committee of its members to investigate the subject. In accordance with this request Drs. B. F. Fortner, C. E. Fulton, D. B. Farnsworth and F. B. Fuson were appointed on the committee and their report has just been submitted.

This report discloses an immense amount of work done by the committee and evidences the influence of the county medical society in securing for the people adequate protection against a contaminated water supply, for we find that the committee held out against the water company until that corporation agreed to filter all the water instead of only a part of it. The water company has accepted plans for the erection of a filtration plant guaranteed to deliver clear, bright, filtered water with a bacterial content of not more than 100 bacteria per c.c. The work on the plant is to be commenced at once and finished early in May.

GOVERNOR HADLEY AND THE HOOKWORM.

As we go to press the Conference on Hookworm Disease, at Atlanta, begins its session; but the medical profession of Missouri will have no official representative participating in the deliberations of that important

body, to return with a report of the conclusions that may be reached as to the causation, prevalence and eradication of this preventable disease.

Governor Hadley, it is reported, could see no virtue in appointing a delegate from Missouri to attend this congress of physicians. The hookworm as a possible factor in the affairs of this State, medical or political, does not loom large in the purview of the Governor's horizon, and, therefore, his failure to appoint a delegate from Missouri, though certainly criticisable, might not, of itself, have called forth more than a mild rebuke. When, however, he not only refused to appoint a delegate but announced as his reason therefor that he "draws the line at hookworm conventions," he exhibited an astonishing puerility of perceptive and reflective faculties.

The fact that a Missouri physician, the late Dr. Walter L. Blickhahn, at one time superintendent of the St. Louis City Hospital, was among the first to detect and report the existence of hookworm disease in this State and in the United States,* may not be generally known, even in the medical profession; but the Governor's ignorance of the profession's acknowledged distinction in this direction in no way lessens the gravity of his neglect to appoint a delegate to the convention now assembled to study this disease.

The medical profession of Missouri has made great sacrifices for the State and is ready to make greater sacrifices for the benefit of the people; but the State government cannot escape its share of responsibility —receiving all and giving nothing. The profession has certain rights as voluntary benefactors to the State and ready recognition of these rights ought to be conceded.

WHAT IS CHIROPRACTICE?

Now we know what chiropractice is: it is legal. Such at least is the finding of a St. Louis jury, who acquitted one of the cult of the charge of practicing medicine without a license.

With such decisions as this allowing the city and State to be overrun with quacks and charlatans, the medical profession will experience considerable difficulty in immolating itself upon the altar of the public good; and in spite of their best endeavors to prevent the people from being humbugged by ignorant and incompetent persons, doctors will be compelled to continue business at the old stand and administer to the

*A Case of Ankylostomiasis. By W. L. Blickhahn, M. D. *Medical News*, December 9, 1893.

sick and afflicted who have been made worse by the impudent machinations of such fakers.

The actions of this particular infractor of the medical practice act will have further attention of the St. Louis Health Department, and we hope another jury will exhibit somewhat of that degree of intelligence in the interpretation of the medical law, in the light of present day knowledge, which impelled Judge Williams to rule, in the State vs. Larson: "The Court instructs the jury that holding one's self out and representing and professing to be able to heal disease, no matter by what process, is practicing medicine within the meaning of the law."

THE CHAMBLEE CANCER CURE.

The pertinacity of the medical faker yields only to the crushing fraud order of the United States Postoffice Department. For many months the St. Louis Health Department has endeavored to convict E. R. Chamblee of illegal practices in connection with his cancer cure institution, but, having a medical diploma and license to practice, the loop-holes in the law were too wide and broad to enmesh him.

Chamblee, of whom Mr. Adams in the Great American Fraud Series, published in *Collier's* says:

> I can do no more than mention, by way of warning, a scoundrel who endeavors to frighten women into taking his treatment by advertising in the papers, "In woman's breast any lump is cancer."

has gone to California, according to reports in the daily press. It is not likely that he will lie idle in the sunny groves of the Golden State, nor dwell quietly midst the oranges and limes. His kind seeks the lime light and the glare of newspaper publicity. It would be well, therefore, for the profession of California to watch for a new cancer cure advertisement in the daily papers. Should it appear, let the postoffice department investigate the business, and the antecedents of its proprietors.

DRURY COLLEGE TO HAVE A MEDICAL COURSE.

Advices from Springfield inform us that Drury College will add a department of medicine to its other curricula, beginning with the first semester in February. Such an announcement, coming as it does at a time when the trend of events leads more to consolidation of medical

colleges and greater restriction in the qualifications of students entering upon the course, partakes somewhat of the nature of a shock to the high ambitions of the State, medically. We have too many medical colleges—far too many—in Missouri, and news of the consolidation of some existing institutions would be in much greater harmony with the order of the day, and be received with a finer pulse of gratification than the knowledge that another college has added a medical course.

We have very serious doubts of the wisdom of this move on the part of Drury College, even though it is intended, for the present, that only the two first years of a medical course will be taught; nor will the allurement held out to the prospective matriculant that the "medical student can procure a diploma from the college and a degree of doctor of medicine in six years," add much to the doubtful credit of having increased the number of medical departments of colleges in this State from eleven to twelve.

ANNUAL MEETING OF THE SECRETARIES.

The County Society Secretaries Association will meet in annual session at Hannibal, May 3, 1910, when matters of interest to every secretary will be discussed along the line of our stated objects: "To broaden the scope and to strengthen the ties; to develop and harmonize medical society work throughout the State." Any secretary having a special topic to suggest for a paper, is cordially invited to communicate with the secretary, as the program will be arranged within the next thirty days. Address: Dr. Chas. Wood Fassett, Secretary, St. Joseph, Missouri.

PERSONAL AND NEWS NOTES

Dr. Kenneth W. Millican, formerly editor of the St. Louis *Medical Review,* has accepted the editorship of the Bulletin of the Municipal Tuberculosis Commission.

Dr. Orville H. Brown has resigned the position of superintendent of the State Sanatorium for Incipient Tuberculosis, located at Mt. Vernon, and moved to St. Louis.

Dr. Edward H. Skinner, of Kansas City, who has been in Europe for several months studying in the Roentgen laboratories, will return about February 1st and re-establish his *x*-ray laboratory in Kansas City.

Dr. J. Park Neal, acting superintendent and house surgeon of the General Hospital at Kansas City, has resigned his position. It is probable that the office of house surgeon will be abolished. Dr. Neal will enter private practice in Kansas City with offices in the Argyle Building.

Several physicians in St. Louis were prosecuted in the police courts recently for failures to report existence of contagious diseases among some of their patients.

Ninety-three thousand dollars was raised by the members of the Jewish Educational and Charitable Union in St. Louis last month, the fund to be used for establishing two institutions for the Jewish population, an orphans' home and a sanatorium for incurable tuberculosis cases.

Eradicating the Plague from San Francisco. Report of the Citizens' Health Committee and an account of its work.

This is a most important and timely document. The pandemic of plague is encroaching slowly, but surely, on our Gulf and Atlantic seaboards, and this document has been issued because it is felt that if the cities in those localities were aware of the dangers that confront them and the means to be used in meeting and combating them, great good may be done and much suffering prevented.

This report is also of value because it illustrates the efficient work which is done by the United States Public Health and Marine Hospital Service whenever an opportunity presents itself.

According to statements published in the daily press, the municipal commission on tuberculosis, in St. Louis, estimates that there are at least 10,000 cases of consumption in St. Louis, although in the past three years only 5,581 cases have been reported to the Health Department. This indicates, if the estimate is correct, that scarcely one-half of the known cases of tuberculosis are reported, notwithstanding that St. Louis boasts of a law requiring physicians to report all tuberculosis patients. Such derelictions run counter to the proud boast that our profession is the Ultima Thule of altruism and humanitarianism. Every

hidden consumptive is a menace to the community and a blight upon the professional career of the physician who attends the patient.

The State Board of Health, at its annual meeting in Jefferson City last month, elected the following officers: President, Dr. Ira W. Upshaw, of St. Louis; vice-president, Dr. E. F. Robinson, of Kansas City; secretary, Dr. Frank B. Hiller, of Jefferson City.

The Board appointed about nine hundred registrars in the various registration districts to report births and deaths in compliance with the provisions of the new vital statistics law.

At the request of Governor Hadley, the Board made a thorough inspection of the sanitary conditions of the Penitentiary.

As an outgrowth of the Conference on Infant Mortality, held in New Haven, Conn., last December, the American Association for the Study and Prevention of Infant Mortality has been formed with headquarters at the Medical and Chirurgical Faculty Building in Baltimore, Md., and an active campaign will be inaugurated having for its object the prevention of race waste rather than race suicide. The membership will include physician, educators, students of social economy, and all other individuals interested in the uplift of public health and moral standards. Dr. H. M. Knox, Jr., is president of the Association.

A man down in Mississippi, we are told in press dispatches, true to his vow to his wife,—who was opposed to the use of drugs,—never to mention medicine to her or call a doctor, saw her die in great agony and refused to break his vow or allow his neighbors to administer even a potion to soothe her dying moments, or, mayhap, save her life.

Some vows were made to be kept; some to be broken. This was one to be broken. Such behavior is more than inhuman, it is diabolical.

Some day, not far in the purple distance when the light of modern medicine has filtered through the mind of man, the responsibility of the individual in respect of the health and lives of his fellow-beings will compel an accounting to the courts for inaction in the presence of sickness and death from preventable causes.

COUNTY SOCIETY NOTES

ADAIR COUNTY MEDICAL SOCIETY.

The Adair County Medical Society held its regular monthly meeting on January 6, 1910, at the office of Drs. Martin and Parrish, at Kirksville, with the following members present: Drs. Martin, Callison, Butler, Hanks, Quinn, E. A. Grim, E. C. Grim and Bert Parrish.

The application of Dr. A. W. Parrish for membership in the Society was read and Dr. Parrish was unanimously elected a member of the Society.

The rest of the meeting was given over to a general discussion of the subject, "Advantages and Disadvantages of Local Applications." This subject proved to be very interesting and the Society voted to take it up again.

The Society is in excellent condition; every member is manifesting a keen interest and we look forward to the year 1910 being our banner year in medical work in this county. The physicians are working together as a unit, and under such favorable conditions we see no reason why the medical profession should not prosper in the future as it has in the past.

The Society adjourned to meet with Dr. E. C. Callison, at Kirksville, on Thursday, February 3, 1910, at 7 p. m.—Bert Parrish, M. D., Secretary.

BATES COUNTY MEDICAL SOCIETY.

The Bates County Medical Society held its October meeting in Butler on Thursday afternoon and was well attended by physicians from over the county. The program included Typhoid Fever, by Dr. Boulware; Problems of Nutrition and Growth, Dr. Chastain; Coughs and Colds, Dr. Newlon; Croup, Dr. G. G. Lane.

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY.

The Cape Girardeau County Medical Society held its regular monthly meeting on January 10th, with the following members present: Drs. Cunningham, Hope, Howard, Moore, Porterfield, Schultz, Wichterich and Wilson; visitor, Dr. Robbins.

After going over the report of the work for the year just closed and the routine business, the following program was rendered: "Acute and Chronic Poliomyelitis," by Dr. Moore; "Neuritis," by Dr. Howard; also the report of a case of labio-laryngeal paralysis, by Dr. Wichterich.

After each feature of the program had been thoroughly discussed, the Society adjourned.—E. H. G. Wilson, M. D., Secretary.

CHARITON COUNTY MEDICAL SOCIETY.

The regular meeting of the Chariton County Medical Society was held at the Brunswick Hotel, in Brunswick, on December 9th. There were present Drs. Knott, Wallace, Edwards, Epperly, Jennings, Brummall, Baker, Welch and Hawkins.

The Society voted to hold its regular meetings in Salisbury during the year 1910. Owing to lack of time, on account of trains being late, the president's address was held over until the January meeting.

The election of officers for the year resulted as follows: President, Dr. R. G. Epperly; vice-presidents, Dr. G. W. Edwards and Dr. Otis T. Morey; secretary and treasurer, Dr. C. A. Jennings; reporter, Dr. G. W. Hawkins; delegate to the State Association, Dr. R. G. Epperly; alternate, Dr. J. S. Wallace; medical representative, Dr. Harry E. Tatum; surgical representative, Dr. J. H. P. Baker; censors, Drs. Knott, McAdam, Kirkpatrick; legislative representative, Dr. J. S. Wallace; committee on year book of program, Drs. Wallace, Brummall, Welch and Jennings.

The Society decided to hold a public meeting in Salisbury, Mo., on March 10th.—G. W. Hawkins, M. D., Reporter.

COLE COUNTY MEDICAL SOCIETY.

The Cole County Medical Society met at Jefferson City January 13th. The following members were present: Drs. Hough, Ettmueller, J. N. Enloe, Clark, Hiller, Bedford, Hill, Aldridge, Cortez, Eurol, Dallas and Summers.

The following officers were elected for the ensuing year: President, Dr. J. N. Enloe; vice-president, Dr. M. R. Aldridge; secretary, Dr. J. S. Summers; treasurer, Dr. Gustav Ettmueller.

DAVIESS COUNTY MEDICAL SOCIETY.

The Daviess County Medical Society met in Gallatin, on January 11th, in the Y. M. C. A. building with President Wetzel in the chair.

A very interesting paper was read by Dr. C. E. Waller, of Altamont, entitled, "Dispensing of Drugs." The paper brought out a very liberal discussion from the members of the Society.

The annual election of officers was then held and the following were elected for the ensuing year: President, Dr. N. M. Wetzel, Jameson; vice-president, Dr. C. E. Waller, Altamont; secretary, Dr. M. A. Smith, Gallatin; delegate to the State Convention at Hannibal, Dr. H. E. Songer, Jamesport; alternate, Dr. N. M. Wetzel, Jameson; reporter, H. E. Songer; committee on program, Dr. Songer, Dr. Wetzel president, Dr. Smith, secretary.

Dr. Wetzel presented two pathological specimens that were very interesting.

The next meeting will be held in Gallatin in April.—H. E. Songer, M. D., Reporter.

HOWELL COUNTY MEDICAL SOCIETY.

The Howell County Medical Society met in regular session at 1:30 p. m. on December 9th, 1909. Members present: Drs. Nichols, Thornburgh, Dixon, Johnson, Spear, Evans, of West Plains; Drs. Rowe and Davis, of Willow Springs; Dr. Anderson, of Mt. View.

Dr. J. McB. Johnson presented a clinical demonstration showing how easily errors are made through a superficial diagnosis. A general discussion resulted in much benefit to those present.

Dr. A. H. Thornburgh read a very able paper on "Toxemia," which was generally accepted as a very scientific production and generally discussed.

Election of officers for 1910 resulted as follows: President, Dr. J. McB. Johnson; vice-president, Dr. J. C. B. Davis; secretary, Dr. E. E. Evans; treasurer, Dr. R. S. Spear; delegate, Dr. D. J. Nichols.

Adjourned until the second Thursday in February in 1910.—E. E. Evans, M. D., Secretary.

LAFAYETTE COUNTY MEDICAL SOCIETY.

The Lafayette County Medical Society held its regular monthly meeting at Higginsville, Tuesday, December 14, 1909, with the following members present: Drs. L. Carthrae, Sr., C. T. Ryland, C. W. Ott, W. A. Breaklein, E. A. Hoefer, W. A. Porter, T. A. McLennan, J. E. Tucker and J. G. W. Fischer.

After the regular business routine was disposed of, the following officers for the coming year were elected: President, J. A. Mann, of Wellington; first vice-president, T. A. McLennan, of Higginsville; second vice-president, J. A. Schneider, of Concordia; secretary and treasurer, E. A. Hoefer, of Higginsville; delegate, Lewis Carthrae, of Corder; board of censors, Hy. Williams, 1 year; J. G. W. Fischer, 2 years; C. T. Ryland 3 years.

Dr. W. A. Breaklein read an instructive paper on "Diseases of the Left Heart."

Upon motion the Society accepted the offer by the members of Higginsville to entertain the Society with a banquet at the Arcade Hotel January 11, 1910.

MEETING OF JANUARY 11.

The Lafayette County Medical Society met in regular monthly session at the Arcade Hotel, January 11, at Higginsville.

After the necessary business was transacted, the Society was royally treated to a sumptuous dinner given under the auspices of the Higginsville members. Dr. Breaklein welcomed the guests in a few well chosen words in answer to the toast "Our Guests." Dr. Chalkley responded to the toast "Our Hosts;" Dr. L. Carthrae, to "Our Wives;" Dr. Hoefer, to "Ourselves;" and Dr. J. A. Mann, our new president, in a very appropriate address, to "Our Society." Dr. C. T. Ryland acted as toastmaster. The guests were highly amused and entertained by several splendidly rendered recitals by Mrs. Gleason.

Those present were: Dr. and Mrs. W. A. Breaklein, of Higginsville; Dr. and Mrs. Lewis Carthrae, Sr.; Dr. and Mrs. Lewis Carthrae, Jr.,

and Miss Edna Carthrae, of Corder; Dr. J. G. W. Fischer, of Alma; Mrs. W. A. Gleason, of Victoria, B. C.; Dr. and Mrs. E. A. Hoefer, of Higginsville; Dr. and Mrs. T. A. McLennan, of Higginsville; Dr. E. J. McLennan, of Medford, Okla.; Dr. J. A. Mann, of Wellington; Dr. and Mrs. C. W. Ott, of Higginsville; Dr. W. A. Porter, of Higginsville; Dr. C. T. Ryland, of Lexington; Miss Florence Schmelzer, of Higginsville; Dr. and Mrs. W. C. Webb, of Higginsville; and Dr. J. E. Tucker, of Lexington.—J. G. W. Fischer, M. D., Reporter.

LAWRENCE-STONE COUNTY MEDICAL SOCIETY.

The members of the Lawrence-Stone County Medical Society made no mistake when they decided to accept the hospitality of the physicians of Crane, and hold their closing meeting for the year 1909 in that city. In addition to an excellent dinner at the Hotel Portland, augmented by a generous supply of quail, supplied by the "nimrods" of the profession, the entire meeting was a success.

There were no "wall-flowers" present, everyone took part in the discussions, openly and freely, not for the purpose of advertising any pet theories, or to become prominent, but simply to contribute to the general fund of information and to give each other the benefit of their own successes and failures, in that way which has set the medical profession apart and above all others, and made it one of the noblest of callings.

In addition to the regular quarterly meetings of the year, the Society has held two public meetings. One during the month of May at which Dr. J. N. McCormack, of Bowling Green, Ky., addressed an exceptionally intelligent audience of about one thousand people at the Aurora Armory Theatre. Dr. McCormack's personality and his message certainly aroused the people, as there has never been a time when so much interest has been taken in hygenics, both private and public.

The scientific programs throughout the entire year, have covered the ground of medicine, surgery, bacteriology and medical jurisprudence.

The officers for the year 1910 are as follows: Dr. J. P. Andrews, Marionville, president; Dr. C. W. Shelton, Mt. Vernon, vice-president; Dr. J. B. Fleming, Aurora, re-elected secretary; Dr. T. D. Miller, Aurora, re-elected treasurer. Delegate to the State Association, J. P. Andrews; alternate, J. B. Fleming; censor, E. E. Waid; reporter, D. M. Huffman, Crane; auxiliary committeeman, A. H. Madry, Aurora.—J. B. Fleming, M. D., Secretary.

MARION COUNTY MEDICAL SOCIETY.

The members of the Marion County Medical Society held their regular meeting in the office of Dr. Hornback on November 15th. The following physicians being present: Drs. Bounds, Banks, Goodier, Winn, Coons, Schmidt, Detweiler, U. S. Smith, Howell, Hill, Hays, Baskett, Guss, Hornback, Bourn, Waldo and Ross.

Dr. Goodier presented a patient and gave an extended account of the case which was afterwards discussed at length, by nearly every doctor present. It was the consensus of opinion that in many cases irregular heart beats are caused from the excessive use of tobacco. It was argued that excessive use of tobacco cause irregular and intermittent heart beats

and that it is injurious to health. Several of the doctors stated that they had treated patients for irregular heart beats, especially those who were excessive users of tobacco and that after they had quit the use of tobacco their heart beats became normal. This was one of the most interesting subjects discussed and was very instructive. In fact it is a great pleasure to attend these medical meetings and listen to the discussions and exchange of ideas.

Under the head of "Interesting Cases," Dr. Hill spoke of a patient that he treated a short time ago who lost her power of speech and her jaws became set and remained in that condition for about thirty-six hours, although at the time there was nothing wrong with her bowels or her kidneys. The patient recovered her power of speech, her tongue loosened and her jaws resumed their normal condition. It was a very remarkable case and was discussed by several of the members. Others spoke of interesting cases that had come under their observation.

MISSISSIPPI COUNTY MEDICAL SOCIETY.

The Mississippi County Medical Society met in regular session at Charleston November 1st. The following members were present: Drs. Wallace and Love, of Bertrand; Drs. Lynch, Boone, Presnell, Reed, Marshal, Chapman and Howle, of Charleston; visitors: Dr. W. F. Grinstead, of Cairo, Ill., and Dr. R. K. Ogelvie, of Blodgett, Mo.

Dr. H. H. Marshall was elected to membership.

Dr. Wallace, of Bertrand, read a paper on "The Treatment of Typhoid Fever." His usual treatment was first to cleanse the alimentary canal, using for this purpose calomel, followed with a cathartic and turpentine. He did not use cold baths, preferring warm water. For the fever he usually prescribed aconite.

Dr. Ogelvie, in opening the discussion on the paper, objected to turpentine because in his opinion its use is injurious to the kidneys; he also objected to aconite for reducing the fever. He used ice cold baths for this purpose, either a sponge bath or an ice pack, preceding the application with a small amount of whisky. He favored the employment of enemas for emptying the large bowel, and followed these with sulphocarbolates.

Dr. Grimstead said we should be careful in the management of typhoid fever cases not to over-treat this disease; that is to say, we should treat symptomatically for there was considerable danger in over-dosing. His usual procedure was to give an anti-malarial treatment during the first week, quinine, preceded by calomel, and salol as an intestinal antiseptic; he used turpentine in 5 minim doses for tympanitis, followed with iodine and carbolic acid. If hemorrhage of the bowels occurs, he gave adrenalin hypodermically; if shock was present, he administered normal salt saline by hypodermoclysis.

Dr. Reed said there could be no routine form of treatment for typhoid fever, except in the case of complications. He prescribed calomel, but no solid food in necrotic cases. The Widal test he regarded as having little value except when the patient is able to resist the disease, as shown by a high opsonic index.

Dr. Boone also expressed the opinion that the Widal reaction was practically valueless for diagnostic purposes; he had discarded it as a dependable indication of the existence of typhoid fever. He advocated

the use of quinine given from midnight until noon, and during the next twelve hours he used the salicylates. Salol and turpentine, in his opinion, have elements of danger. As an antiseptic he favored acetozone.

Dr. Chapman regarded most of the cases which did not yield to quinine as typhoidal in character. He objected to the use of carbolic acid and iodine and did not prescribe these drugs in treating typhoid cases.

Dr. Marshall reported a case of cancer of the mouth which had destroyed all except three teeth of a patient three years old.—W. P. Howle, M. D., Secretary.

MEETING OF JANUARY 3, 1910.

The Society met in Dr. Vernon's office in Charleston January 3, 1910. Dr. W. S. Love, the president, presided. The following members were present: Drs. O. W. Chapman, F. S. Vernon, G. R. Wallace, W. S. Love, J. W. Lynch and J. C. Boone.

Dr. Reid read an interesting paper upon "Diphtheria." He said that while in New York he had gathered notes from the Willard Parker Hospital and presented them with some private notes in the form of a paper. Antitoxin, in the opinion of the essayist, was the most valuable treatment for diphtheria, his experience being satisfactory, especially in diphtheritic croup. He advised early dosage in sufficient amount to get results. No untoward symptoms had been observed from the use of the serum. He usually gave a calomel purge at once and then the antitoxin without delay.

The discussion was liberally entered into by nearly all present. Practically all urged the use of antitoxin. Nothing of unusual nature was reported following its use.

The Society adjourned to meet in Bertrand in February.—J. C. Boone, M. D., Secretary.

RANDOLPH COUNTY MEDICAL SOCIETY.

The Randolph County Medical Society met at Huntsville on October 28. The meeting was held in the office of Dr. S. C. Adams. While the meeting was not as largely attended as was expected, it was one of the most interesting and instructive that has been held in the county for months.

The main question discussed at the meeting was "appendicitis," in which discussion most all the physicians present took part.

The out of town physicians present were: C. B. Clapp, G. O. Cuppage, Moberly; O. F. Hatton, W. C. Alexander, Clifton Hill; Frank McCormick, Darksville; A. Aldrich, Mt. Airy. Huntsville physicians present were: J. G. Rafter, G. G. Bragg, W. P. Terrill, D. A. Barnhartt, J. R. Mabee, S. C. Adams, J. W. Taylor and R. E. Kiernan.

At the close of the session the Huntsville physicians entertained their visiting brethren with an elegant supper. The next meeting will be held in Moberly.

STE. GENEVIEVE COUNTY MEDICAL SOCIETY.

The Ste. Genevieve County Medical Society held its regular monthly meeting January 12th. Application of Dr. P. I. Aubuchon, of Bloomsdale, Mo., was voted on and he was unanimously elected a member. Report of

treasurer was read, showing cash on hand of $21.14. On motion it was approved.

Adjourned until second Wednesday in February, 1910, at 7 p. m.—R. W. Lanning, M. D., Secretary.

ST. JOSEPH-BUCHANAN COUNTY MEDICAL SOCIETY.

The St. Joseph-Buchanan Medical Society, at its last session, voted to hold weekly, instead of fortnightly meetings, in the lower lecture room of the Ensworth Medical College, and to change same from Wednesday to Thursday evening, convening in 8 o'clock sharp.

The Post-Graduate Study Course, as outlined by the American Medical Association, and elaborated by the use of the projectoscope, is now in progress and a cordial invitation is extended to the medical profession of adjoining counties and neighboring towns to attend these meetings.

No other business will be transacted at these meetings. A business session will be held once a month, at which all miscellaneous business will be transacted, including reports of committees.

A special effort is being made to increase the membership of the Society, and all members are urged to send to the secretary the names of eligible physicians who may desire to affiliate with us.

Programs, application blanks and all information will be cheerfully furnished.

Red Cross Stamps.—Christmas stamps to the number of 35,000 were sold in St. Joseph during the holidays by the Tuberculosis Committee of the county society.

BANQUET OF THE ST. JOSEPH-BUCHANAN COUNTY MEDICAL SOCIETY.

The seventh annual banquet of this medical society was held at the Hotel Metropole, on Saturday evening, December 18th, covers being laid for sixty.

Dr. J. M. Doyle, retiring president, officiated as toastmaster.

Dr. Tinsley Brown, president of the Missouri State Medical Society, was the guest of honor and responded to the toast, "Our State Society," setting forth the progress made during the past few years and its advantages to every member.

Mayor Clayton responded to "The Healthiest City on the Map" in his characteristic style, closing with a token of appreciation to Dr. Thomas H. Doyle, the senior member of the Society and its first president. The mayor told of the early work of Dr. Doyle and the many sacrifices he had made for the good of humanity. He proposed a standing toast to Dr. Doyle, who in responding, stated that he had simply done his duty and that his sacrifices, if any, were cheerfully made; his recompense was in the relief of suffering and distress.

Dr. Jabez N. Jackson, of Kansas City, who was to have been a guest, was unable to be present and his toast, "Sidelights on the Profession," was responded to in a pleasing manner by Dr. E. S. Pettijohn, of Topeka.

The "Inquiry Box," conducted by Dr. A. L. Gray, proved to be the hit of the evening, and contained many amusing thrusts at the vulnerable parts of the doctors who were present.

Dr. A. H. Vandivert responded to the toast, "The Insane Doctor," and did full justice to the subject.

"The Projectoscope as a Harmonizer," was the rather difficult sub-

ject assigned to Dr. W. L. Kenney, but was disposed of to the amusement of those present.

Dr. John H. Sampson closed the festivities by an imitation of the "Arkansaw Traveler."

REPORT OF SECRETARY FOR THE YEAR 1909.

To the President and Members of the Society:

I have the honor to present the seventh annual report of the secretary.

The year just closed has been one of great accomplishments, and everything along the line of medicine and surgery has received fresh impetus, as evidenced by the developments in spinal anesthesia, pellagra and hook-worm disease.

Our Society has entertained a number of distinguished guests during the past year and has assisted in bringing St. Joseph into prominence through the meeting of the Medical Society of the Missouri Valley in March, which proved to be the banner meeting in the history of this association. At this time several medical gentlemen of national reputation were in the city, and took part in the deliberations; among them were Surgeon-General Wyman of Washington, D. C., Dr. H. J. Boldt of New York City, Dr. N. S. Davis of Chicago, Dr. Cornelius Williams, president of the Minnesota State Medical Society, and others.

On the evening of March 16th a special meeting of the Society was held at the Hotel Robidoux, complimentary to Dr. Boldt, at which Dr. J. W. Heddens read a paper on "Rectro-Displacements of the Uterus."

On the first of May, Dr. J. N. McCormack, National Organizer of the A. M. A., gave two lectures, afternoon and evening, under the auspices of our Society.

Among the evidences of progress in our society I may mention the purchase of a projectoscope at a cost of four hundred dollars and the inauguration of the Post-Graduate Course of Instruction, as outlined by the American Medical Association.

I believe in the efficacy of the weekly meeting* another step in the direction of a metropolitan and up-to-date city.

I am firmly convinced that the Post-Graduate series will be instructive and entertaining, that our average attendance will be largely increased thereby.

The annual banquet was held at Hotel Metropole on the evening of December 18th and proved to be a very enjoyable event, the guest of honor being Dr. Tinsley Brown, president of the Missouri State Medical Society.

I hope that before the time arrives for another annual report, our Society may boast of a medical library or at least some well defined plan for its installation.

I cannot close without calling attention to the meeting of our State Society which will be held in Hannibal May 3, 4 and 5, two weeks earlier than usual and to the meeting of the American Medical Association, to be held in St. Louis, June 7 to 10. I am in favor of taking early action in regard to the St. Louis meeting, for the purpose of reserving rooms and establishing headquarters at some hotel where the St. Joseph-Buchanan County Society may be recognized as a society, and where we

*Meetings of this Society are now held every Thursday evening.

can keep in close touch with each other upon all matters of medical interest.

In conclusion I desire to extend my thanks to the officers and members of the Society for their kind assistance and coöperation, without which the secretary's duties would be very arduous indeed.—Chas. Wood Fassett, M. D., Secretary.

SCOTT COUNTY MEDICAL SOCIETY.

The Scott County Medical Society met at Benton, Mo., on January 10th, 1910. The following members were present: Drs. Frazer, Milem, Wade, Hutton, Haw, Westcoat, Harris and Cannon.

Election of officers for 1910: Dr. T. F. Frazer, of Commerce, president; Dr. S. J. Wade, of Benton, vice-president; Dr. J. A. Milem, of Sikeston, treasurer; Dr. G. S. Cannon, of Fornfelt, secretary; Dr. S. J. McCabe, of Chaffe, member board of censors for three years; Dr. Roy Frazer, of Commerce, delegate to the State Medical Society.

It was decided to hold an open meeting at Benton, Mo., on the afternoon of April 4th, 1910.

Dr. Milem, of Silkeston, reported eight cases of gunshot wounds inflicted by toy pistols. Four of these cases developed tetanus, all of which died in from 36 to 48 hours. None was seen previous to the development of tetanic symptoms, at which time antitoxin was freely administered with without avail.

Dr. Milem reported that to his knowledge there were only eight wounds inflicted by the toy pistols during the holidays, four of these were the above tetanus cases, which shows that 50% of those injured developed tetanus.

Meeting adjourned to meet at Benton April 4, 1910.—W. S. Hutton, M. D., Secretary.

SHELBY COUNTY MEDICAL SOCIETY.

The Shelby County Medical Society met on November 23, at Shelbina, in the office of Dr. Vaughn. Those present were Drs. Pollard, Vaughn, Delaney, White, Daniel, Carson, Ferguson, Dallas and Wood.

Dr. Carson read a report of a case of typhoid fever with severe meningeal complications and total blindness for two weeks. The patient, aged 4 years, made good recovery. This was an excellent clinical report.

Dr. Pollard reported a case of typhoid insanity. The general opinion of those present was that recovery would take place.

MEETING OF DECEMBER 29TH, 1909.

The Society met at Waverly Hotel, in Shelbina. On motion the regular order of business was suspended and the election of officers was taken up. The following were elected: President, Dr. W. W. Owen, Shelbina; vice-president, Dr. F. K. Roy, Clarence; secretary-treasurer, Dr. A. M. Wood, Lentner; delegate, Dr. J. D. Smith, Shelbina; alternate, Dr. A. M. Wood; censor for three years, Dr. A. H. Ferguson, Hunnewell.

It was voted to collect one dollar per member to meet the expenses of the Society.

The members then repaired to the dining room, where a menu was served that could not be surpassed. After the banquet, the following program was carried out, Dr. Pollard acting as toastmaster in the absence of Dr. Roy: A paper entitled, "The Old and the New," by Dr. Carson, but read by the secretary in the absence of Dr. Carson; "Early Experiences in Shelby County," by Dr. Smith; "Sunshine and Shadows," by Dr. Vaughn; "Politics," by Dr. Owen; "What do You Think of Us," by Dr. A. W. Ferguson.

Remarks were made by Drs. Roy and Wood. Dr. Chowning talked on medical education; the Hon. N. E. Williams also made an excellent talk. Owing to the inclement weather and the bad roads, the attendance was not so good as had been expected.

The Society has done more and better work the past year than ever before and hopes to improve the coming year.—A. M. Wood, M. D., Secretary.

MEDICAL SOCIETY OF THE MISSOURI VALLEY.

Preparations are under way for the spring meeting of this Society to be held at Omaha, Thursday and Friday, March 17 and 18, under the presidency of Dr. A. B. Somers. Invitations have been sent to a number of men of national reputation, as well as to the presidents of all the State Societies within the province of this Association.

The address in surgery will be delivered by Dr. Leonard Freeman, of Denver, Colorado, who is well known throughout the country, and whose subject, "Local Anesthesia," is a particularly timely one just now.

Members of the Association desiring to present papers at this meeting, will kindly send their applications to the secretary not later than February 10th. Abstracts of papers must be furnished by February 15th, to insure a place on the program. Address Dr. Charles Wood Fassett, secretary, St. Joseph, Mo.

SOUTHWEST MISSOURI MEDICAL SOCIETY.

The Southwest Missouri Medical Society held its annual session in Springfield on November 5th. The meeting was attended by an unusual number of physicians from the southwest section of Missouri. Dr. C. A. Moore presided at the sessions and Dr. H. S. Hill was in his accustomed place as secretary, which office he has filled for a number of years.

Among the papers read and discussed were the following: "Poliomyelitis Anterior with Complete Spastic Condition of Every Joint in the Body," by Dr. R. H. Rogers; "Gastro-Intestinal Diseases in Children," by Dr. S. W. Cossins; "Strangulated Hernia in an Infant Fifty-eight Days Old and a Successful Operation," by Dr. John N. Washington; "We Are Up Against It," by Dr. O. L. Peak.

BOOK REVIEWS

"The Errors of Mind Healing." By Reinhold Willman, M. D., St. Joseph, Mo. Published by the author.

The author says, in his preface: "This book is dedicated to all men and women who desire to assist in the promulgation of the truth concerning the treatment of human ills, as taught in biblical history, and as applied by reason and scientific research, as a duty one to another."

The authorship of this book and its dedication to a genuinely educated public constitute at least a presumptive guarantee of merit. A perusal of the volume confirms the presumption in a very pleasing manner. In this day of shallow education of the masses, by the ingestation of literary husks to the exclusion of scientific nutriment, the various healing cults have donned the usual priestly robe and assumed a commercial life in a commercial age. So it is very opportune that such a book should be written by such a man, and that we should all carefully read it. It is a scientific exposure of the quasi-religious frauds which, seen at long range, tend to mystify the educated thinker, and is actually gulped down *en masse* by the ignorant and the superstitious.

The author seems to think it not enough to waive aside these antique rehabilitated cults which are building temples throughout the country, and, worse still, rearing temples in human hearts. In this hothouse age of dazzling discovery, of decadence of religious thought, many for want of scientific training, are an easy mark for a superstition little less logical than the old fashioned witchcraft.

While we as physicians may not feel called upon to enter the lists as reformers we should at least have at command the reasons for our faith, and not conclude that these metaphysical bents, which have had a fitful existence since the dawn of human reason, are unworthy of our steel. The purpose of this book is to invest us with our knightly armor, which we should buckle about us in a more knightly manner.

B. F. F.

Minor and Operative Surgery, Including Bandaging. By Henry R. Wharton, M. D., Professor of Clinical Surgery in the Woman's Medical College, Philadelphia. New (seventh) edition, enlarged and thoroughly revised. 12mo, 674 pages, with 555 illustrations. Cloth, $3.00, net. Lea & Febiger, Philadelphia and New York, 1909.

The general plan and arrangement of this work is the same as in the preceding six editions. Part I. is devoted to bandaging. Part II. deals with minor surgical procedures, and in this section perhaps lies the chief value of the book. Small but important matters which the larger surgeries ignore, are fully discussed. Many young graduates could describe an appendectomy or pylorectomy on an examination paper who could not tie a surgeon's knot or apply a dressing properly in the operating room. For such, and for the practitioners who do only a little

minor surgery now and then, this work fills a vacancy in medical literature.

Subsequent sections of the book take up asepsis, fractures, dislocations, ligations, amputations and the operative surgery of major operations. All these subjects are treated in a very practical manner.

G. B. L.

The Principles of Bacteriology. A Practical Manual for Students and Physicians. By A. C. Abbott, M. D., Professor of Hygiene, University of Pennsylvania. New (8th) edition, thoroughly revised. 12mo, 631 pages, with 100 illustrations, 26 in colors. Cloth, $2.75, net. Lea & Febiger, Philadelphia and New York, 1909.

Prof. Abbott's book has now been before the public for nineteen years, but in its various revisions it has kept pace with the progressive science of bacteriology. This latest edition contains the very newest bacteriological ideas. The first part of the book is devoted to the fundamentals of bacteriology, and a description of laboratory technique. It is written for beginners. The second part deals with the practical application of bacteriological methods. It contains much (*e. g.*, the chapters on antisepsis, sterilization, examination of water, etc.) that is interesting to the practitioner as well as to the student. The chapter on infection and immunity is especially well written, and is to be recommended to those who want a clear statement of the latest views on these important subjects.

The book serves two purposes: it presents in a clear, simple manner the more abstruse phases of the subject, and it serves as a practical laboratory guide.

G. B. L.

Treves' Operative Surgery. New (3d) Edition. A Manual of Operative Surgery. By Sir Frederick Treves, Bart., G. C. V. O., C. B., LL. D., F. R. C. S., Serjeant-Surgeon to H. M. the King, Surgeon-in-Ordinary to H. R. H. the Prince of Wales, Consulting Surgeon to the London Hospital; and Jonathan Hutchinson, F. R. C. S., Surgeon to the London Hospital. New (3d) Edition, revised and rewritten. In two octavo volumes. Volume I., 775 pages, with 193 engravings and 17 full-page plates. Half-morocco, $6.50, net. Lea & Febiger, Publishers, Philadelphia and New York, 1909.

The growing appreciation of the highest class of foreign medical literature is shown in the demand for successive editions of such pre-eminent works as Treves' Operative Surgery. The quantity printed is limited and the price accordingly seems high, but the value is incomparably greater than the price to the reader who wishes to know the experience of the foremost English surgeon of to-day, and to have the benefit of his judgment in determining the best operation for a given case. This new edition has been completely rewritten at the request of Sir Frederick Treves by his colleague, Jonathan Hutchinson. The illustrations have been equally brought to date with new figures and a number of original colored plates.

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ORIGINAL ARTICLES

EDUCATION OF THE INSANE.*

By G. Wilse Robinson, M. D., Kansas City, Mo.

This Conference annually discusses and suggests solutions for various problems. I believe the most important problem before the Conference at this meeting, is the solution of the "how" of reducing the number of commitments to our insane hospitals, of increasing the number of discharges therefrom, and at the same time making those in the hospitals producers of wealth, as well as consumers, to the end that they may approximate self-support. The proportion of the population that is going insane is yearly increasing. Every insane hospital in the State is crowded far beyond its capacity, and the time is here when more hospitals are needed, and they must soon be built if the present rate of increase continues; and there is certainly no evidence of abatement. There is not a county in the State that is not bearing a heavy burden because of the number of insane who are being supported at public expense. Our insane population numbers about 6,000. It costs approximately $200 per capita to care for them. We are therefore spending annually in the care of our insane approximately $1,200,000. In addition to this expense for maintenance, there is a considerable sum necessary for new buildings and repairs on old ones. Estimating the average earning capacity of these patients, if well, at $500 per annum, there is an additional loss to the State of over $3,000,000. This cost in money does not in any wise include the cost in sorrow which these patients and their friends must suffer. There is no way of estimating this cost in dollars because money cannot pay it. I do not believe we can overestimate the importance of the

*Read before the Tenth Annual Conference of Charities and Corrections, Farmington, Mo., November 4, 5 and 6, 1909.

subject. If there be a solution for these problems which will better conditions I am sure we are justified in giving this solution our very best efforts. After a careful study of conditions and remedies I am convinced that there is a remedy, and this remedy is in education. This education I believe to be of two kinds. First the public should be educated on the nature and causes of insanity and how it may be prevented. The education of this same public on the nature and causes of tuberculosis and how to prevent it has resulted in much good, and I predict will very soon result, even now is resulting, in a decrease of the disease.

My study of insanity has convinced me that over 50 per cent. of it is preventable. Insanity is not a disease. For the sake of convenience we speak of it as being a mental disease. As the mind has no physical existence it cannot be subject to disease. Correctly speaking, insanity is a condition in which there is a loss or perversion of one or more of certain so-called mental faculties. This condition is the result of the loss or perversion of function of certain physical structures of the body. That structure which is always disturbed in function is the brain, although the disease may be in some other organ or tissue. The mental faculties which are most frequently lost or perverted in the insane patient are those of, perception, attention, memory, ideation, emotions and sentiments, the will, and consciousness. While there is occasionally a complete loss of one or more of these, there is always perversion of one or more to a varying degree. The perversions of the faculty of perception are manifested by symptoms which we call illusions and hallucinations. For the mind properly to perceive, there must be normal function of the organs of sight, hearing, taste, smell, touch, pain, temperature and muscle sense, the nerves connecting them with the brain and the sensory centers in the brain, the association brain centers where the percepts are synthetized into concepts and the association tracts which connect the sensory centers or areas with the association areas. Any disturbance of function of any of the brain areas mentioned or of the connecting tracts, may result in the manifestation of illusions or hallucinations, or both. An illusion is a term applied to an inaccurate perception. The most common illusions are of sight and hearing. The insane person who has illusions sees objects and hears sounds which he interprets as being other than what they are. The person with hallucinations projects out of consciousness objects and sounds and various other perceptions which have no existence objectively. In other words he is the victim of various imaginary sensory impressions.

One of the most important faculties of the mind in intellectual development is, attention. This is always perverted in insanity, varying from slight perversion to complete loss. This perversion is manifested by the inability of the patient to exercise a selective power upon the myriads of impressions that invade consciousness, and inability to concentrate the mind upon any subject for a given time. In some forms of insanity there are morbid states of hyperattention. The patient has one fixed idea which cannot be crowded out by any other.

The perversion of memory in the insane is frequently very marked. In a few forms of insanity it may be greatly exalted, but it is usually depressed, and varies from slight depression to complete loss. The retentive power of the insane is lessened because few of the events that happen in their daily lives cause strong mental vibrations.

The most common symptom of insanity is a form of perversion of ideation which we term, delusions. Delusions are of the nature of false judgments of self and external objects. The insane person may have delusions concerning his own personality, such as thinking himself some one else. He may have delusions of property, thinking himself rich when poor, or poor when rich. He may have delusions of character thinking himself evil when good, or good when evil. He may have delusions of health, thinking himself sick when well, or well when sick. Delusions of persecution and suspicion are not normal. These delusions frequently incite the patient to do murder. Delusions are usually of an exalted or depressed type, depending upon the character of the insanity, and the same patient may manifest both kinds at different times.

The emotions and sentiments of the insane are subject to a wide range of variation in their perversions. Many are oppressed by morbid fears. Some seem to have lost all power of being affected in an emotional way, others have such an unstable condition of the emotions that they vary from laughter to tears, praying to cursing, high good humor to extreme anger, in the twinkling of an eye for the most trivial of causes. The insane are persons of extreme moods and their emotional effects are out of all proportion to the causes operating. The sentiments of love and hate are quite frequently perverted. The insane love to-day where they hate to-morrow.

The perversion of the will in the insane is of a varying degree. In some there is very little perversion but in others it may be of such an extreme degree, that a will-less condition exists. The decreased will power is responsible for many of the crimes committed by the insane and for the uncertain and variable character so frequently manifested.

The perversion of consciousness manifested by the insane varies from very slight disturbances to complete loss, in certain stuperous states.

You will readily observe from the above discussion that insanity is a condition of varying degrees, and varies from a very slight departure from the normal to perversion of extreme degree.

In order that the public may assist in combating the increase of insanity they must be made acquainted with its causes. The cause of first importance in the production of insanity is an inherited or acquired predisposition, through bad ancestry or disease and excesses. It is estimated that out of every one hundred persons there is one who has an unstable nervous system and is predisposed to insanity. Estimating the population of our State at three and one-half millions, there are at least thirty-five thousand people in the State who are so predisposed. Nervous instability and predisposition to insanity are usually congenital, and are

manifested by certain anatomical, physiological and psychic anomalies or defects, some of which are easy of detection while others are more obscure. These anomilies of development are called stigmata of degeneration. The anatomical anomilies are of the nature of malformations and the most common are anomilies or malformations of the cranium, asymmetry of the face, deformities of the palate, teeth, tongue, lips, nose, eyes and ears, and anomilies of the body in general and the skin. The physiological stigmata are represented by anomilies of motor function, sensory function, speech, genito-urinary function, instinct or appetite; such as an uncontrollable appetite for food, liquor and drugs, diminished resistance against external influences and disease, and retardation of puberty.

The psychic anomalies are idiocy, imbecility, feeble-mindedness, night terrors, precocity, one-sided talents; disequilibration, eccentricity and moral delinquency.

Children showing any of the above mentioned anomalies are more predisposed to insanity than those who do not show anomalies. I believe there should be State wide inspection of school children; municipal for towns and cities and county for country schools, to the end that these children may be searched out, a record kept of their defects, and their teachers and parents apprised of the same so that they may be more carefully safeguarded by teachers and parents.

Predisposition alone will not cause insanity. There must be one or more exciting causes working in conjunction with the predisposition. One very common exciting cause is our unwise system of education. No provision is made in the curriculum of the average school for the child with the unstable nervous system. The course of study is so heavy that it taxes the strength of the child with strong and stable nerves to carry it. The rest of the children are expected to keep the pace set by the strongest and are urged by foolish teachers and more foolish parents to greater efforts until frequently they are educated into a hopeless condition of insanity.

Unstable children should enter school late, be given short hours of study with much outdoor exercise, permitted to acquire their education slowly, not given too much education, and advised to follow a vocation which requires more physical than mental labor.

A tendency to excesses is an evidence of an unstable nervous system, and excesses of all sorts act as exciting causes of insanity. The excessive use of tobacco frequently causes insanity; especially is this true of cigarette smoking in the young, or of the use of tobacco in any form in excessive quantities by the young. Alcoholic excesses act as exciting causes of insanity in about twenty-five per cent. of all cases. Stress and strain, trouble and worry, are other exciting causes responsible for much insanity. The monotony of life with an absence of mental diversion is responsible for much of the insanity among the wives of farmers. Those with an unstable nervous system require more sleep than other persons

as it takes them longer to recover from the effects of fatigue. An insufficient amount of sleep is the cause of a considerable amount of insanity.

Over-drafts upon the nervous system of young or old must in the end be paid by nervous bankruptcy.

Improper preparation and an improper quantity and quality of food also cause insanity quite frequently.

Preventable diseases such as syphilis act as exciting causes of not an inconsiderable amount of insanity. Likewise excessive labor and exposure, in those predisposed.

You will observe that all of the exciting causes mentioned above are preventable causes. There are a few exciting causes which are not preventable, such as injuries to the brain and local inflammatory conditions of the brain and its membranes, together with certain general bodily diseases, but these cause very little of the insanity.

The other phases of the problem which confront us now, is how are we to increase the number of discharges from our insane hospitals and make those remaining therein approximate self-support. I can see but one answer to these questions and this answer is, by education. The insane in our hospitals, for the sake of convenience, can be divided into acutely insane, epileptics, chronic insane, and idiots. Many of the acutely insane, as at present treated or without any treatment, will recover and return to their homes. The best treatment for them, however, is rest in bed, and they should always be put to bed when they first enter the hospital; they should all receive good nursing by trained nurses, a carefully regulated diet,—all hospitals should have an expert dietist,—a regulation of the elimination, which is best obtained by warm baths, long continued and frequently repeated, also stimulating baths of various kinds, with a very small amount of properly prescribed drugs. This system of treatment will restore the majority of this class of patients. For the care of these patients the hospital department should be made a hospital in the fullest meaning of the term, because they are much in need of scientific hospital treatment.

The epileptics who enter the insane hospitals are not in need of hospital treatment, for they are all incurable. In the first place, they should never be sent to a general hospital for the insane, but should be segregated in a colony for epileptics only. The major portion of them are not insane excepting immediately preceding the time of having, or immediately following, their seizures. Treating them as insane is detrimental to them and the effect of their seizures is very bad upon the other patients. If placed in a colony by themselves the per capita cost of their support can be very materially reduced as almost all of them can work if given the opportunity, and their ability to work is about equal to the ability of an equal number of men in a normal condition, excepting when they are disturbed as a result of their seizures, which occur very rarely in many. They of course should have their energies intelligently

directed and many of them will need special training, but above all things, the epileptic needs an opportunity to work; not to restore his mind, but to make his life in the institution more bearable, to lessen the number and severity of his seizures and to render him less of a burden to the State which must support him.

The idiots in our State hospitals are of course incapable of much intellectual development, but with proper training they are all capable of being sufficiently trained to make them useful in various ways around the hospital.

The so-called chronic insane should be subdivided into three classes: the progressively incurable dements, such as the paretics and senile dements; the physically helpless, such as the paralyzed; and those that are neither physically helpless nor have progressively incurable dementia. The two former classes constitute a small percentage of the hospital population and about all they need is kind treatment, good nursing and careful attention to their physical needs. This they get in most, if not all of our State hospitals. The greater percentage of the population in our State hospitals is composed of a class of persons who have entered the hospital as acute patients, have not been restored and are left over, as it were, from year to year, until there is a large accumulation. These people are not sick, but are in good physical condition. They do not need hospital treatment, excepting occasionally as one of them has an acute attack of sickness of some character. They eat and sleep well and are in fairly robust health. In most of our hospitals they live a very monotonous life. Such a life as they live is not conducive to their restoration. The majority of them do nothing but eat, sleep, sit in the wards and occasionally take a little outdoor exercise, with no opportunities for social intercourse excepting with other insane persons. Should we be surprised that we are not discharging more of this class of insane? For them the insane hospitals are nothing more than jails and their only function is custodial. I will agree with you when you say they are housed in good buildings, of which we are all proud, and the buildings are kept clean. They are treated kindly in most instances, are fed food of good quality and ample quantity, are kept warm, well bedded and are furnished with some amusement. But is this all we owe them? A humane man will do as much for his dog or horse. We have made very little progress in the treatment of this class of patients in the last one hundred years. We are perhaps more humane in our treatment of them and have made some improvements in sanitary regulations, but I consider our treatment of them now as being inhuman in the extreme. The state of the criminal in the penitentiary is much better, as he is given the opportunity and facilities with which to work and receives training for mind and hands, while the insane must live alone with his delusions and a mind concentrated on the ego. It is not surprising that these patients frequently become violent and have to be restrained by mechanical means and sedative drugs. What they need and want is mental and

physical occupation; in order to develop the undeveloped child we give him occupation for all of the faculties of his undeveloped mind and work for his hands. This development of the undeveloped mind we call education. The class of insane which we are discussing had, before their acute attack of insanity, developed minds; as a result of their insanity they have suffered a mental reduction until many of them are of the apparent development of small children, and they must be re-educated and re-developed. They must be given occupation for all the faculties of the mind and work for their hands. Some of them show very little mental reduction and likewise very little perversion of mental faculties; others show great mental reduction and likewise great perversion of mental faculties. Those that show the greatest amount of mental reduction should be treated as very small children who are beginning on the first principles of education. They should be given a kindergarten course just as the small child, with about the same course of study. Those who have suffered less mental reduction need not begin with the fundamentals, but they can begin a little farther along in the course, which should be progressive in character and should be systematically carried out. In addition to the kindergarten department there should also be a well equipped manual training department. These departments should be directed by well qualified teachers. Every insane hospital should have a well furnished general library for the patients' use. These patients should be encouraged to read wisely selected books, and brought together at certain intervals by a competent teacher to tell what they have been reading. They should also under the direction of a well qualified teacher be given a course of ordinary school study such as the average child gets in our public schools. The treatment of the class of patients under discussion as suggested would open the door of their prison to scores on whom it is hopelessly closed if they are treated as at present.

The most important part of their treatment, however, is the manual training department and ordinary labor. A course in a well equipped and well directed manual training department is, perhaps, the best method of producing all around mental and physical development. Every faculty of the mind as well as the hands are exercised and developed. An industrial building for the industrial re-education of these patients is very essential. In such a building the clothing of all the patients can be made, mattresses manufactured, furniture repaired and much new furniture made, etc. Such a building will pay in money saved the institutions which is now spent for such supplies as can be made by the patients.

Many of the women patients are now employed in all of our hospitals in the wards, laundry, kitchen, dining-rooms, etc., while many of the men are employed on the farm, in the dairy, repair work on the buildings, cleaning the campus, building fences, working in concrete, road building and, in short, doing about everything and every kind of work there is to do.

During my superintendency of State Hospital No. 3 (Nevada) our

male violent ward built two miles of the best dirt road in Vernon County, with picks and shovels and did all manner of ordinary and extraordinary labor, and did it well.

The women in the wards should be taught to do crochet and embroidery work, basket making,—anything to keep them employed. They all need what we have not been prepared to give them, occupation, occupation, occupation, it is their only hope. It does not always restore, but it makes life more bearable for them.

I have seen industrial re-education restore and open the hospital door where it seemed as though restoration was impossible.

Amusement and recreation for the patients is of so much importance that these should be provided with as much regularity as the food. I regard the use of the moving picture machine as one of the best possible ways of amusing and entertaining. Its operation, however, is attended with considerable danger and should be very carefully manipulated. Band concerts, dancing, ball playing and all forms of athletic sports not only furnish amusement, recreation and mental diversion but they assist very materially in re-developing and re-educating as well.

There seems to be a popular impression that the insane are useless members of society and cannot be educated. This is a grave mistake as many intellectually superior people have at some time in their lives been insane, and many who exercised a marked influence upon their country and time have been insane during part of their lives and semi-insane when not wholly insane.

Boards of managers of the hospitals should be educated upon the usefulness of the chronic insane and should be encouraged by legislative enactment to use them in building new buildings instead of having them built by contract at enormous profits to the contractors and quite frequently to the detriment of the buildings. I believe a conservative estimate of the saving which could in this manner be made upon all new buildings would be 33⅓ per cent. and the benefit which the patients would derive from the work cannot be estimated in dollars and cents; but it would certainly be very great.

I trust this Conference will go on record with a recommendation that all of our State hospitals be made, instead of jails for the confinement of the class of insane referred to in the above, educational institutions in the fullest possible sense, and that a campaign of education be inaugurated in the education of the public upon the nature and causes of insanity and the manner of its prevention, as well as a campaign to the end that we may get such legislation as will make it possible to give the patients the full benefit of education.

OTITIC SINUS PHLEBITIS AND THROMBOSIS; WITH REPORT OF A CASE OF PHLEBITIS AND THROMBOSIS OF LATERAL SINUS AND JUGULAR BULB.*

By W. E. Sauer, M. D., St. Louis, Mo.

The venous channels of the brain which are most often involved in a suppurative inflammation of the middle ear and mastoid cells are, in the order of their frequency: 1. The lateral sinus. 2. The superior and inferior petrosal sinuses. 3. The cavernous sinuses. 4. The bulb of the jugular and jugular vein. Sinus phlebitis and thrombosis occur more frequently in cases of chronic middle ear suppurations than in acute forms, and frequently run their course without any other intracranial complications. At times other intracranial complications may occur, such as extradural abscess, meningitis and abscess of the cerebellum.

The extension of a middle ear suppuration to the brain or its coverings, occurs in the majority of cases when the bone has become diseased to the dura; should the dura become involved, a meningitis, sinus thrombosis or brain abscess is the result. Should the dura not become involved, an extra dural abscess is the result. The reason why there is a diffuse meningitis in one case, and a more circumscript inflammatory process, such as a subdural abscess in another, depends on the greater or lesser virulence of the infectious material. The lesser virulent infections have a tendency to adhesive inflammation, which, through the adhesion of the mininges, prevents the spreading of the infection; while in the more virulent infections, the extension of the inflammatory process is so rapid, that there is not sufficient time for the formation of these adhesions.

An infectious sinus thrombosis results when the inflammation has extended as far as the intima of the venous channels of the brain. When a disturbance of the endo-thelium of the intima takes place, the formation of a thrombus is the result. A thrombus can be theoretically considered as benign; but according to Gruenert, should always be regarded as malignant. A thrombus may develop into a solid mass, which may be converted into connective tissue, but as a rule, owing to the entrance of the infectious material, the thrombus becomes broken down, and the sinus may be partially filled with purulent masses or even pus. The thrombus may be confined to a small area of the lateral sinus, or it may extend upward to the torcular herophile and even into the longitudinal sinus, or downward to the jugular and vena cava. It may also

*Read in the Eye, Ear, Nose and Throat Section, Fifty-second Annual Meeting Missouri State Medical Association, Jefferson City, May, 1909.

extend to the petrosal or cavernous sinus. In some cases we may find the thrombus organized for a certain distance, and in another portion it may be broken down and infiltrated with pus. The wall of an inflamed sinus or the jugular vein rarely shows a normal appearance. At times there are marked changes such as, a yellowish green color, a purulent infiltration, considerable softening, gangrenous, and even perforated.

The symptoms of a sinus thrombosis are often not characteristic. According to Jansen, an otitic sinus thrombosis, even with a purulent thrombosis, may cause no symptoms. As a rule, however, there are such symptoms as headache and vomiting, and as the disease progresses marked depression is noticed. The most characteristic symptoms of a sinus phlebitis and thrombosis are severe chills and high fever, with a rapid decrease of the temperature. There may be several remissions of the temperature during the same day. The tongue is dry and coated. The pulse is rapid, small and of low tension. The skin is dry, and the spleen enlarged. The patients are usually conscious to the end. Other symptoms occurring less frequently are, stiffness of the neck, optic neuritis in about 50 per cent. of the cases. According to Jansen, when the thrombus has extended to the internal jugular vein, there is a painful cord like swelling at the side of the neck. If the thrombus extends to the facial vein, edema or swelling of the eye-ball occurs. If the petrosal or cavernous sinus becomes involved, engorgement of the vessels of the orbit with exophthalmos, disturbance of vision, edema of the eye lids, paralysis of the motor occuli, abducens and trochlear nerves.

The diagnosis of otitic phlebitis and sinus thrombosis is frequently not made, especially when the causal suppuration in the middle ear is overlooked. This can occur very easily, especially when the discharge from the ear is, or has always been very slight. This condition can be mistaken for typhoid, miliary tuberculosis or malaria. The course of the disease is very irregular. Death may occur in a few days from collapse or metastasis in the vital organs, or the patient may linger for months; death resulting from a general pyemia.

The prognosis of the otitic sinus affections is, thanks to the modern method of treatment, much more favorable. According to Koerner's statistics of 314 cases, 180 of these cases were saved by operations; that is, more than half of the cases recovered. The prognosis is less favorable when the thrombus has extended to the jugular vein, and when metastasis has formed in the lungs, or when the cavernous sinus and other intracranial complications are present. The treatment is always surgical. Zaufal, in 1880, was the first to suggest the surgical opening, and removal of a thrombus from a diseased sinus; but not until four years later did he attempt this on the living, but his patient died fourteen days later from a pleuro-pneumonia. Lane, in 1888, and Balance, in 1890, were the first to report successful cases. Since that time Koerner was able to gather reports of 314 cases.

The usual methods of procedure in operating on the lateral sinus, is

to remove the bony wall of the sinus after the completion of the simple or radical mastoid (depending on the case). Enough of the bone is removed so that the sinus can be thoroughly inspected, that is, as far up as the knee, and as far down as the jugular foramen, about 3/5 cm. The normal sinus wall has a bluish appearance and pulsates. The diseased sinus wall has a yellowing appearance and the pulsations are absent; however, in the case of a hollow or cylindrical thrombus the pulsation may still be present. The character of the contents of the sinus can, according to some authorities, be determined by aspirating the sinus with a trocar. This method is recommended by Politzer. If clear blood is aspirated and then only mild pyemic symptoms present, the sinus does not necessarily have to be opened, as the thrombus may be absorbed. After the infection has been removed from the temporal bone, other authorities regard the aspiration of the sinus with a trocar as a dangerous procedure, as the sinus can be easily infected in this way. After one has decided to open the sinus, it can best be done with a pointed bistoury and the wound enlarged with a scissors; the thrombus can then be removed with forceps and curette. The upper portion of the thrombus is removed first. This must be followed up until a free flow of blood occurs. The sinus is then packed with iodoform gauze, and the lower portion of the thrombus is carefully removed. This must be very carefully done, owing to the danger of air aspiration into the vein, and a dislodging of the thrombus. Politzer and Whiting introduce a gauze tampon between the sinus and the bone. Gruenert and Balance always ligate the internal jugular vein before they open the sinus. Voss freely exposes the sinus and cuts away the wall beyond the ends of the thrombus, but does not disturb the thrombus. The question of ligating the jugular vein is still being debated. In Koerner's statistics of 314 cases, the vein was not ligated in 132, yet there were 58.3 per cent. of recoveries. In 94 cases the vein was tied before the sinus was opened, with 59.6 of recoveries. In 69 the vein was tied after the sinus was opened, with 59.9 per cent. recoveries. According to these findings, the results are practically the same; showing that the results do not depend on a certain method, but on how early the case is operated upon. In 120 cases the operation was done during the first week after the appearance of intra cranial complications; of these 75 recovered. In 80 cases in which the operation was done during the second week, only 27.5 recovered.

In those cases in which the phlebitis has extended to the jugular bulb and vein, the ligation of the vein is imperative. Many authorities not only ligate and divide the vein, but resect other portions of the vein.

At this point I wish to report briefly a case of thrombosis phlebitis of the lateral sinus, and the bulb of the jugular vein. The case was that of a girl 1 3years of age, who was sent to the medical ward of the Mullanphy Hospital, in the service of Dr. Elsworth Smith. The patient entered the hospital on June 15, 1908. The following history was noted

by the interne in charge: Illness commenced one week ago with chill and fever, no appetite, and discharging ear. The temperature had been variable, ranging from 99° to 105°; frequent chills, complained of pain over right mastoid and down right side of neck.

Physical Examination. Patient pale, teeth covered with sordes, face shows evidence of pain, head moderately retracted, knees drawn up on abdomen, unable to flex head on trunk, abdominal muscles held rigid, tender over abdomen, no rose spots, spleen enlarged on percussion, Kernig's sign present, no Babinski, no ankle clonus, abdominal reflexes exaggerated, knee jerk present, tasche cerebral, tender over mastoid.

About 7 p. m. I saw the patient and found the temperature 105°. She was conscious and was able to give fairly intelligent information regarding her history. I learned that she had been subject to attacks of pain in the right ear, at irregular intervals, and at least on two occasions the ear had discharged for several weeks, but that there had been no discharge for a year or more. The present trouble began with severe pain in the right ear a week ago, and during the past few days had had pain over the mastoid region. The aural examination revealed a slight purulent discharge. The drum membrane was bulging, and there was some sagging of the upper posterior canal wall. There was also marked tenderness with some edema over the mastoid, with tenderness over the course of the jugular vein. I made a diagnosis of an acute mastoiditis with possible phlebitis and thrombosis of the lateral sinus and jugular vein. The drum membrane was freely incised and hot irrigations ordered. The following morning I found that the temperature had gone down to 99.6°, and the general condition of the patient was decidedly better; the ear was discharging freely, but there was no marked change in the mastoid condition. Examination of the urine by Dr. Barry revealed a slight trace of albumen, the Widal was negative and no plasmodia were found in the blood. Dr. Alt made an ophthalmoscopic examination and found a haziness of both discs. During the afternoon the temperature went up to 104.8°, although there was no history of a chill. I decided to open the mastoid. The bone was found to be necrotic down to the dura, and there was also an accumulation of pus between the dura and the bone; that is, a peri-sinus abscess. The sinus was fully exposed, but the wall of the sinus did not show any decided changes, and pulsated normally. I decided not to open the sinus. The wound was dressed in the usual way, and the patient was sent to bed. That night the patient had a severe chill; the following day there was no apparent change in the general condition of the patient, except that she appeared very drowsy and slept most of the time. The temperature ranged between 99.6° and 104°. The next morning Dr. Alt made another ophthalmoscopic examination and found a decided improvement in both discs. There was, however, no corresponding improvement in the general condition of the patient; on the other hand, she had a very anxious

expression, and complained of pain in the neck, but owing to the improvement of the ocular findings I decided to wait. On June 22, the fourteenth day of the illness, the patient had a severe chill; temperature 104.8°, pulse 120. Kernig's symptom was present and the reflexes markedly exaggerated. She complained of pain in the back of the neck, her tongue was heavily coated. I then decided to open the sinus. The patient was removed to the operating room, and the sinus fully exposed; there was no pulsation to be made out. I then incised the sinus and found it thrombosed. On removing the upper portion of the thrombus, a free flow of blood ensued; this was controlled in the usual way, by packing the sinus with gauze. The lower portion of the thrombus was broken down and at least a teaspoonful of pus was evacuated from the sinus. It was found that the thrombus extended down into the jugular bulb. I then decided to ligate the jugular, and to expose the bulb fully before attempting to remove the thrombus. The jugular was then ligated low down in the neck and divided; a number of enlarged lymphatic glands along the course of the jugular were removed at the same time; the jugular bulb was then fully exposed and the thrombus removed with a curette. A fair amount of bleeding followed. A portion of the sinus wall was removed with a scissor, and the wound was packed with iodoform gauze and dressed in the usual way. Immediately after the operation the pulse rate ranged from 160 to 180. The patient spent a very restless night, but the next morning the pulse had gone down to 132, temperature 101.6°. At noon pulse 104, temperature 98.3°. The general condition of the patient gradually improved. The outer dressing was removed three days later, but the gauze tampons in the sinus were not removed until the second dressing, two days later. There was no hemorrhage following the removal of the tampons; the dressing was then changed daily. During the convalescence the temperature was 97° to 100.4°. The wound gradually closed. The patient left the hospital on July 24th. The mastoid wound had entirely closed and the hearing was normal; she had fully regained her former health. The ocular examination at this time showed a slight haziness of the right disc; the left was normal; there was no interference with the vision.

One of the interesting points in this case was, the extensive involvement of the mastoid cells, and the presence of an extradural abscess, one week after the beginning of the illness. The patient was positive that there was no pain or discharge in the ear prior to one week before she entered the hospital. There evidently must have been an inflammatory process in the mastoid for some time previously, or there might have been a slight discharge from the ear which the patient overlooked.

Another interesting point in the case was, the marked improvement in the ocular findings following the first operation, in which the sinus was not opened. The haziness of the disc was decidedly less on the second morning after the operation. This improvement took place in

spite of the presence of a septic clot within the lateral sinus. I would undoubtedly have opened the sinus at least forty-eight hours sooner, if I had not taken the ocular findings as an evidence of improvement.

Humboldt Building.

ACCIDENTAL REMOVAL OF THE STAPES.*

By F. C. Simon, M. D., St. Louis, Mo.

Since our interest pertaining to anything dealing with labyrinthine affections has been greatly stimulated during the past few years, by the great strides taken in that direction, we should gladly welcome experiences that have to do with conditions of the internal ear.

The case that I am about to report, "The Accidental Removal of the Stapes," is of interest, because an opening was established with the vestibule, in the presence of a chronic suppurative otitis media, this condition almost inviting infection, and yet the patient happily escaped any of the very grave consequences that might have occurred.

History. During December of 1906, Tom M., age 14, called at the Ear Clinic of the Washington University Hospital for treatment. He stated that he had had a discharge from the left ear for the past six years but was unable to give the supposed cause.

Examination. The middle ear and canal were filled with a profuse, fetid, purulent discharge, and after this was removed the drumhead was found to be completely destroyed, excepting a very narrow margin. The short process of the hammer was visible but a portion of the handle was missing. The labyrinthine wall was studded with an abundance of granulation tissue. The hearing test on this side showed that the whispered voice was heard at a distance of two feet, watch about three inches. The Rinne's test was negative and the Weber was referred to the left. The nasopharynx was normal.

Treatment. A course of expectant treatment was employed for about two months. Very little improvement followed, the discharge only becoming slightly lessened and more serous in character. As the appearance seemed to point to carious ossicles, it was deemed advisable to see what the removal of the maleus and incus would do. So ossiculectomy was advised. The operation was performed under local anesthesia. The remaining portion of the malleus was extracted without any difficulty, but when an attempt was made to remove the incus it seemed to be wedged high up toward the antrum and impossible of dislodgment. After several

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unsuccessful attempts at its removal the search was finally abandoned. The granulations were carefully removed by means of a biting forceps. By subsequent swabbing of the ear, the stapes was found dislodged and clinging to the cotton on the applicator. It was entire.

The patient complained, immediately following this, of dizziness, and had to be led from the operating chair and placed in a recumbent position. Vertigo continued in this position but gradually lessened until after the elapse of half an hour he was placed in an upright position. Spontaneous nystagmus was observed, vertigo was still present and his gait was unsteady.

Patient refused to remain at the hospital and went home, accompanied by his mother. Absolute rest with application of ice to the head was ordered. The following day a slight degree of vertigo still existed, there was no nausea, nor any fever or headache. Wound was dressed and found to be clean. On the third day dizziness had subsided and on the fourth day the patient was allowed to get out of bed. After this the recovery was uninterrupted as far as the labyrinth was concerned.

The middle ear condition was improved, but still some serous discharge remained after several months' treatment. The radical mastoid operation was advised but refused.

The hearing was slightly impaired by the operative interference. Whispered voice after the operation was heard only one foot as against two feet before the operation. The distance for the watch was also greatly lessened.

In a stapedectomy, the presence of pus in the middle ear is a menace, and one would naturally expect an acute suppuration of the inner ear to follow. In this case, however, there was no trace of any such disturbance.

The patient was last seen about a year ago, which was two years after the operation, and at that time he was in good condition. At no time after the primary dizziness disappeared was there any attack of spontaneous dizziness, nor was any dizziness brought about by sudden head movements or active exercise.

Fortunately the internal ear is quite resistant to infection but perhaps not as much so as we have been led to believe. No doubt the practical application of the knowledge of the static labyrinth for diagnostic purposes as it has been developed by Neuman, Barany, Alexander and others, will convince us that labyrinthine complications exist where they are thought to be absent.

DISCUSSION.

Dr. Schutz, Kansas City, asked what was the nature of the vertigo.

Dr. Simon replied that there was a tendency to rotate toward the affected side.

Dr. Schutz said he had treated a similar case with the vertigo much more pronounced, accompanied with nausea and vomiting more or less

constant for five days after removal of the stapes. The character of the vertigo was a tendency to rotate toward the affected side around the vertical axis. Patient could not raise his head from the pillow or move his head toward the healthy side without bringing on severe paroxysms of vertigo and vomiting. It was fully three weeks before these symptoms entirely subsided. Another marked condition was rapid loss of flesh although this, of course, could be accounted for by the more or less constant retching and vomiting subsequent to the operation.

Dr. Simon said that in Dr. Schutz's case the nausea was probably brought about by the cholesteatoma causing some internal ear excitation. In his case the sudden removal of the stapes probably caused a labyrinthine irritation, but not a labyrinthitis.

SOME PHASES OF LABYRINTHINE DISEASES FOLLOWING MIDDLE EAR AND MASTOID SUPPURATIONS.*

By C. F. Pfingsten, M. D., St. Louis, Mo.

The membrana tympany secondaris closes the fenestra rotunda and it is this membrane which is very often endangered, especially in otitis media following scarlet fever and measles, when the pressure of the exudate in the tympanic cavity is not relieved by early uaracentesis or spontaneous rupture of the tympanic membrane. Destruction in the region of the round and oval windows occurs most frequently after scarlet fever and tuberculosis of the middle ear. During a scarlet fever otitis destruction and invasion of the labyrinth occurs most frequently during the height of the disease and thus the symptoms on the part of the labyrinth, *i. e.*, dizziness, nystagmus, vomiting, etc., are often overlooked. Usually the first symptoms observed are loss of hearing or the onset of inter-cranial complications. In suppurations of the labyrinth recovery sometimes takes place but always with the loss to a greater or less extent of the accustic function, or in other cases the suppuration may extend along the accoustic nerve or the aqueduct to the brain, with a resulting meningitis or brain abscess as the consequence.

As a prophulactic measure it is of paramount importance to institute a paracentesis in all cases of scarlet fever otitis as soon as the slightest indication of involvement of the middle ear and especially should no time be lost if exudation is present. Procrastination in doing a paracentesis in these cases is little less than criminal. To wait for a spontan-

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eous perforation of the tympanic membrane means not only the jeapordizing of our patient's hearing but his life as well. Many a life would be spared and the number of deaf mutes diminished if this salient truth were more generally appreciated. Every practitioner and especially those more or less distant from a specialist should have the proper knowledge and equipment to do a paracentesis properly. Fistulous tracts are most frequently observed in the horizontal canal during the mastoid operation where it projects into the antrum. More frequently they are caused by pressure from cholestome than by active inflammation of the bone. These cases are of gradual progression and operative interference is attended usually with complete recovery. It is of prime importance to institute the various tests as laid down by Barany to establish the functionating power of the labyrinth, and by thus doing we can readily tell whether or not and to what extent the labyrinth is involved.

As soon as the end nerves of the static labyrinth are involved we have loss of hearing, disturbances in equilibrium without dizziness and nystagmus. In those cases of latent labyrinthitis the danger of the cranial content is increased by the concussion produced by the mallet during the operation by which means the suppurative material is prone to travel along the avenue of predilection, namely the acoustic nerve and aqueduct to the brain. In these cases it is of great importance to do the radical as well as the labyrinth operation or else neither. The practice of opening a fistulous tract, for instance, in the horizontal canal while doing the radical operation and thus being content or taking it for granted that there is no infective material elsewhere in the static labyrinth, not withstanding the fact that many cases do recover with such limited surgical intervention is nevertheless an inefficient surgical procedure. When operating on the labyrinth either remove it entirely or don't touch it at all, for the smallest amount of infection retained within the labyrinth after operation on the semicircular canals, vestibule of cochlea, is exceedingly dangerous to the cranial contents. The mortality in chronic suppurative otitis media usually following a scarlet or measels infection, where the necrotic process is allowed to go on until exfoliation takes place, is more than twenty per cent. which in the light of modern otological surgery is very high. Thus it behooves us to thoroughly acquaint themselves with the modern means of differentiating the cases in which removal of the labyrinth is the only procedure that will save the life of our patients. Jensen, Barany, Alexander and Neuman have pointed out the way; thus let us not be content to follow along the new paths surveyed by these great lights in otology but ever press on with that true American spirit until the day will not be far distant when the otologist will take the front rank among the brain surgeons of his day.

209 Lester Building.

DISCUSSION.

Dr. M. C. Shelton, of Joplin, said, if the suppuration was in the attic, a free incision might relieve the symptom, especially if accompanied by incision of the mucous membrane.

Dr. Scholz, St. Louis, believed in early paracentesis in otitis media, where the presence of exudate causes symptoms. He did not, however, favor the incision of the mucous membrane on the promontory, in view of the fact that the bony wall of the labyrinth at this point is devoid of diploe, receiving its blood supply mainly from the mucous membrane over its tympanic surface and from the membranous labyrinthine wall within. Interference with this source of blood supply might disturb the nutrition of the bone so as to endanger its vitality. The promontory and the prominences of the lateral semicircular canal are the favorite seats of fistulæ of the labyrinth. Fistulæ may be complete or incomplete, extending through the bony wall to the membranous labyrinth or into it. The incomplete form does not necessarily indicate a labyrinthine operation, this form usually heals after proper drainage has been established. This class usually gives the reaction known as the fistula symptom, a vestibular reaction brought about by compression or rarefaction of the air coming in direct contact with a functionating labyrinth. This test, so very valuable in diagnosis, is made manifest by a characteristic ocular movement.

Dr. Carl Barck, St. Louis, did not agree with Dr. Pfingsten, that the whole labyrinth should be removed. In labyrinth affection, either one of the semicircular canals or the vestibule, or both, are affected. Where one of the semicircular canals alone was involved, it alone should be operated. He reported a case of involvement of the superior horizontal canal which he operated in this manner and which recovered fully.

Dr. Ewing, of St. Louis, agreed with Dr. Barck that many labyrinth affections would get well if left alone. The labyrinth could not be cleaned absolutely and a partial operation would be insufficient.

METHODS OF CLINICAL TEACHING IN OTOLOGY.*

By Selden Spencer, M. D., St. Louis.

The subject of teaching may not appeal to all as being of particular interest, but it is of vital importance to our profession and it has occurred to me that it is one that is too often overlooked in our discussions.

In times past our graduates have too frequently gone forth to battle in the field of medicine, wholly unprepared for the work which they have in hand and their practical experience has had to be obtained by a protracted hospital experience or a long apprenticeship. We can not hope

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to perfect our medical schools so that we may turn out physicians fully prepared with practical training as well as academic, but we can aim to strengthen our undergraduate courses and give our embryo physicians a firmer foundation on which to build that superstructure which is to house the knowledge and experience on which they will make daily call.

In any branch of work we must have two kinds of teaching, the theoretical and the practical, and the importance of either must not be underestimated. The man whose training has been purely practical is an empiric; the man whose training has been purely theoretical is a doctrinaire. But the man who has studied the theory and has learned its application is ideally trained and eminently fitted to take up his work.

The properly trained physician must have had instruction in all branches of medicine and, while it may be his wish to specialize and devote most of his time to a favored branch later on, his training in college must be general to give him the proper foundation on which to build this special knowledge.

As all men cannot be universal specialists we must give careful consideration to the quantity and quality of the teaching in the special branches. As to how this teaching should be conducted, what we shall say of clinical teaching in otology will apply in a limited sense at least, to all the special courses.

A course of didactic lectures with required examinations, demanding collateral reading, is sufficient preparation for the clinical course. With this theoretical foundation the student is prepared to enter on his course of practical instruction, but without this practical instruction his theoretical work will stand him in little stead when he attempts actual work. In otology the physical examination is the most important feature, if not the essential one, for without the ability to make such an examination a man is absolutely unfitted for ear work.

Whatever variations there may be in methods of clinical teaching, they must follow one of two main lines. Either the cases must be demonstrated before the class, or section, or the cases must be turned over directly to the student for him to diagnose and determine treatment. These two methods I wish to compare, and in doing so to make a plea for the latter which, I am sorry to say is, I fear, the rarer in this country.

The demonstration method consists in giving the class a short talk or lecture on a certain ear condition, after which a case is exhibited. One, or perhaps two or three such cases are on hand and the students are formed in line to pass by and have a look. With the whole class or section, to examine a few cases, the student is hurried and when asked if he has seen what he is expected to see his answer is invariably "yes." The student is led to say that he *has* seen even though he may have seen nothing at all, or if he has seen, he has no idea of the significance of what he has seen. Pressure is brought to bear to elicit this

answer. He fears that if he spend more time than the others think reasonable he will be looked on as a grind, or one who is trying to make an impression on his instructor. Or at least as one who is extremely selfish and is taking up the valuable time of the rest of the class; he occasionally is even hurried by the impatience of the instructor who is anxious to give all a chance. By such a method the time of the instructor and that of the student is limited. Consequently interest to some extent flags and technic can never be developed.

The demonstration method can be improved on, however, and made more valuable and instructive if a clinic is properly equipped for it. If there are enough chairs and lights to seat several patients so that each man may take his time with a case and pass on to the next, the instructor, with one or two efficient assistants, can give more time to each man and hurrying may be eliminated. Drawings indicating what each case represents may be placed near the case and the work of the men can be overseen so that much may be learned as to methods of inspection and pathological conditions. However, at its best the demonstration method can never be made as valuable as the method which we are about to consider.

We are assuming that the lecture course in the third year has prepared the student to enter on his practical work in the clinical course. No general lectures are given. All instruction is given individually. The chief difference in this method from the demonstration method, as we have chosen to call it, is that we turn the patient over to the student without comment on the condition of the case. He is asked to question and examine the patient and determine in his own mind whether the trouble is located in the external, middle, or internal ear, and to what class of ear affections it belongs. Further he is asked for a complete diagnosis and for his advice as to treatment and prognosis. Wherein he fails he is set right. To give him better practice in interpreting what he sees and to be further sure that he really sees, a drawing of the condition of the drumhead is required in all middle ear cases. In the early part of the course, cases are selected until a variety has fallen to the lot of each student; then later on cases are taken at random. The understanding that all work will be graded acts as a stimulus.

It is our aim in the undergraduate course in otology to turn out physicians who are able to make an intelligent inspection of the drumhead, the tympanic cavity and the entire otitic region. It is not our aim to turn out finished ear specialists.

Particular stress is laid on diagnosis. The essential thing in any branch of medicine is diagnosis; manifestly we cannot institute proper treatment unless we are sure of the condition that we are handling and are familiar with it in its different stages. Students have opportunity to carry out the simpler methods of treatment, but the importance of diagnosis, and methods of examination and technic, are more particularly dwelt upon.

Students are apt to insist on giving a good deal of time to therapeutics, and of course we cannot neglect this important subject, but we feel that the short time allowed can be better used by devoting it to technic and examination, as being more unchanging, and more difficult to obtain a working knowledge of through textbooks. It is evident that it is not advisable to turn surgical cases over to students, though they should be made familiar with the operations in use and have opportunity to see all major and minor operations which arise. Surgical dressing cases should be referred to the students.

To be properly equipped to carry out these methods of instruction, it is necessary to divide the clinic room into a number of compartments, or alcoves, so that each student may have his own compartment and be practically alone with his patient until he is ready to report to the instructor. These alcoves should be equipped with a strong artificial light, instrument case, table chairs for patient and physician, and with all the necessary instruments. A nurse should be in constant attendance, and the necessity for asepsis is impressed on the students by being strictly enforced; all instruments are to be sterilized as soon as they have been used.

In this alcove the student is thrown on his own responsibility. He may question the patient at whatever length he deems necessary, and must from the history and examination reach his own conclusions. He must then report to the instructor who directs him. At the start the simplest cases are given and it is explained how the pathological conditions are to be classified and how we are to go about finding the nature of the patient's complaint.

Of course at first the novice is awkward and sees little or nothing, but as time goes on his technic is improved and his knowledge of the subject in hand becomes visibly broadened. From the start his weaknesses are dwelt upon and corrected. At first he needs much help but he handles each case somewhat better than he did the last.

The advantages of this method must be obvious. It is possible to tell just whether or not the student is learning anything, not by an examination after a given interval but at each clinical hour his progress can be watched. He himself becomes more self-reliant and more interested in his work. Under the demonstration method half the class or more might go through the year without being able to see a drumhead. Under this method such a result is impossible.

The difficulties in the way of carrying out this method are the expensive equipment, the necessity either for many instructors or for small sections.

We have been carrying out this method in our clinic at the Washington University hospital. We have equipped the room with twelve alcoves supplied as I have described above. We always have at least three instructors on hand and aim to divide the class into sections of not more than nine or ten. A nurse is also always in attendance. We feel

that we can safely say that as a result of this method no one leaves our course without being able, at least to see the drumhead and to recognize the simpler pathological conditions. In fact most of them are much better equipped than this.

DISCUSSION.

Dr. Kelly, of Sedalia, said each otologist had his clientele of general practitioners, most of whom had no conception of conditions in the ear; so cases come in very badly diagnosed. The otological clinics should remedy this, but most students do not try to learn in the clinics.

Dr. Schutz, Kansas City, thought the methods of teaching otology in our American colleges have been more or less of a failure, at least have fallen short of what they should be, judging from the ignorance displayed by the average general practitioner of the structure of the aural organs. He complimented the essayist for the thoroughly modern and practical method of clinical instruction he had suggested and was particularly delighted to know that the doctor practiced what he preaches in his college work. Drawing as a means of instruction is not only valuable, but is absolutely essential; next to dissection it is the best method of teaching anatomy.

Dr. Lichtenberg, Kansas City, said it was astonishing to observe how little the general practitioner knew about the ear. He did not know how to handle the requisite instruments, much less how to do the delicate operations necessary. He thought that clinical instructions should replace the didactic.

Dr. Ewing, St. Louis, was glad to hear that Washington University was teaching otology so scientifically. He thought that individual instruction was the best method. The Metropolitan Throat Hospital, of New York, though small, gave good instruction; large clinics shove the patients through too fast, not permitting time for the mental digestion of conditions.

GLAUCOMA.*

By Flavel B. Tiffany, M. D., Kansas City, Mo.

Glaucoma is the name given to certain pathological lesions of the eye, which give rise to numerous symptoms due to increased intra-ocular tension. The word glaucoma (signifying sea green) is of pre-ophthalmoscopic origin and does not in any sense express the real pathology, except perhaps the apparent greenish color of the pupil and chambers. Hence a better name should be substituted, which would suggest the real pathology. Uveo-cyclitis would perhaps be better, but that sometimes exists without other symptoms, so for the present we are constrained to retain the old name.

Until recent years glaucoma constituted more than one per cent. of all disease of the eye, hence the great importance of the general practitioner being able to recognize it and give timely advice, that it may be checked before the vision is irremediably lost.

Glaucoma is a disease of the uveal tract, involving the ciliary region. The power of accommodation as a rule is the starting point, but sooner or later Fontana's spaces, the ligamentum pectinatum iridis, the iris itself, the ciliary muscle, ciliary ligament, with the entire uveal tract and Schlemm's canal, become involved. Some few authorities claim that the disease begins as a papillitis, but there is little doubt that true glaucoma has its origin in the uveal tract. It is sometimes associated with trigeminal neuralgia, which gives rise to excessive secretion of the aqueous humor, hence increased intra-ocular tension.

At the limbus (or sclero-corneal junction) are located the ciliary muscle, Fontana's spaces, Schlemm's canal, the root of the iris, with many blood vessels, nerves and lymphatics coming in and going out. The aqueous humor also has its exit at this region. Knowing of the many blood vessels and nerves coming to and leaving the eye through the ciliary region and Schlemm's canal, we can easily see that a blockade of the filtration angle will cause a retention of the aqueous humor, and produce an increased intra-ocular tension on which depends the symptoms called glaucoma. It is well known that the aqueous humor is contsantly flowing out of the eye at Schlemm's canal. This fact is well demonstrated in keratotomy when the aqueous humor is evacuated, causing the cornea to sink and reducing the intra-ocular tension. But in a few moments the fluid is replaced, the cornea assumes its tone and curvature, and the tension of the globe is re-established, showing the rapid secretion

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of aqueous humor which is going on all the time and is necessary to secure a healthy condition of the parts.

Glaucoma is generally a disease of middle or old age. As a rule it does not appear until after the presbyopic period, a greater per cent. of cases occurring between the fortieth and sixtieth years. It very rarely occurs before the twentieth year. I believe that the majority of cases of so-called glaucoma seen in children and young people are of mistaken diagnosis if not of traumatic origin. It occurs more frequently in females than in males. Emmetropic and myopic eyes are seldom attacked, the hypermetropic eye is the one that is subject to it. This eye is below the normal in size, having a cornea less than 11 mm. in diameter with a crystalline lens disproportionately large, with a shallow anterior chamber and a narrow circumlental space. The circular fibres of its ciliary muscle predominate almost to the exclusion of its meridional ones. In the hypermetropic eye, the power of accommodation is brought into requisition both for near and for distance objects and this constant strain and use is very liable to bring about congestion, which frequently ends in cyclitis, if not cyclo-iritis.

There are four stages of the disease:

1. Prodromal. 2. Acute, or primary. 3. The fully developed. 4. Degenerative stage.

In acute glaucoma the following twelve symptoms are usually present, viz: 1. Increased tension of the globe. 2. Rapid increase of any pre-existing presbyopia. 3. Venous hyperemia of the ciliary region. 4. Dilatation and sluggishness of the pupil. 5. Cloudiness of the aqueous and vitreous humors. 6. Periodic dimness of vision. 7. Appearance of a halo of prismatic colors about the light. 8. Contraction of the field of vision. 9. Ciliary neuralgia. 10. Anesthesia of the cornea. 11. Scotomata. 12. Arterial pulsation and cupped disc at the fundus.

Considering the symptoms separately we find first, that the patient complains of a fullness of the eye-ball, as though the globe were too large for the orbit. Gentle pressure upon the globe with the lids closed and the eye directed downward reveals an increased intra-ocular tension, varying from a slight perceptible degree to that of stony hardness. To what is this increased tension due? Occlusion of the filtration angle, as explained above, results in the retention and accumulation of fluid, producing this symptom.

2. Rapid increase of any pre-existing presbyopia. The patient finds it necessary to change his glasses frequently for stronger ones. What does this mean? It means that the ciliary muscle is involved and is rapidly losing its power of accommodation and causing an increase of the presbyopia.

3. Venous hyperemia at the limbus. The anterior ciliary veins become engorged and tortous, which is simply due to an increased tension, impeding the circulation of this part of the eye ball.

4. Dilatation and sluggishness of the pupil. Upon examination we find that the pupil is more or less dilated, according to the stage of the disease, and does not respond readily to the stimulus of light or to the act of accommodation. To what are these conditions due? The motor nerves or those from the lenticular ganglion supplying the ciliary fibers of the iris, pass through the ciliary region. These become involved and allow the sympathetic, which supplies the radiating fibers to gain a preponderance of power, resulting in mydriasis and inactivity of the pupil.

5. Cloudiness of the vitreous and aqueous humors. The patient complains of seeing specks or cobwebs floating before the eyes. The aqueous humor is found to contain leucocytes, epithelial cells with more or less granules of pigment. Upon examination of the vitreous it is found to contain pigment, corpuscles and striæ running through it, evidencing that some dissolution of the ciliary processes, or of the choroid, or of both, has taken place, resulting from the lesion in the uveal tract.

6. Periodic dimness of vision. The patient in the prodromal stage often complains of periodic dimness of sight. This is probably due to temporary disturbance of the intra-ocular circulation. This dimness can be easily produced by merely pressing the globe, showing that a very slight disturbance of this circulation will affect the vision.

7. The halo of prismatic colors around the light. This is one of the most constant symptoms of glaucoma, especially in the earlier stage. It differs from the ordinary halo in that the outer part of the ring is red, the inner a bluish green. This halo is seen only when the pupil is dilated and is probably due to a diffraction of the rays of light, owing to a change in the refracting power of the lens, especially at the periphery or at the portion near the ciliary region—the seat of the disease. Hence we refer this symptom to a lesion of the ciliary processes and muscle.

8. Contraction of the field of vision. The field is usually greatly limited. The contraction beginning in the equatorial portion of the globe, goes on to such an extent that the patient will describe his limitation of vision, as if he were looking through a tube. The most probable reason for this limitation of the field of vision, being of the peripheral portion, is that this is the part of the retina nearest the seat of the disease, also that the venæ vorticosæ leave the eye near its equatorial portion.

9. Ciliary neuralgia. This symptom in the acute form of glaucoma is always present throughout all the different stages. The patient complains of a sense of aching and a tightness of the globe, with a throbbing pain extending over the brows, through the temple and down the nose. The pain is most severe and frequently is referred to the back of the head, when it is accompanied by nausea and vomiting. Sometimes the pain is of an almost maddening character, causing the strongest man to quake and tremble in agony. This pain is due to the involvement of the sensitive nerves of this region.

10. Anesthesia of the cornea. This is quite a frequent symptom of glaucoma, more especially in the chronic form. The cornea becomes so

anesthetized that it can be touched with the finger or probe without occasioning the slightest pain. We have seen that the sensitive fibres supplying the cornea pass through the ciliary region, which is sufficient explanation of this phenomenon.

11. Scotomata, or blind spots, of which the patient occasionally complains, are usually due to hemorrhagic patches upon the retina, referable to the intra-ocular tension.

12. Arterial pulsation at the fundus of the eye and cupped disc. These symptoms, which the ophthalmoscope reveals, providing the media are sufficiently clear, are pathognomonic of glaucoma. In fact I believe that this pathological phenomenon must exist in order to entitle the conditions to the dignity of glaucoma. The glaucomatous cup involves the whole optic disc with the recession of the lamina-cribrosa, while the physiological cup is simply a shallow depression confined to the center of the disc. In the glaucomatous cup, the margin is abrupt, sharp and often excavated, and as the blood vessels curve over the edge, they appear interrupted and distorted. In different forms of papillitis, the cupping of the disc is not associated with recession of the lamina-cribrosa and there is loss of color at times amounting to chalky whiteness. The optic disc is usually encircled by a light colored band, which is due to the sclerotic shining through the atrophied choroid. At the margin of the disc, where the vessels wind over, a distinct arterial pulsation, synchronous with the heart's beat, may be present or induced by slight pressure on the globe.

The cause of these symptoms is evidently increased intra-ocular tension, and the reason of their location may be explained by the fact that the lamina-cribrosa is at the foramen-opticum where there is the least resistance.

Pathological Appearances. The cornea may be hazy, ciliary region congested, and the ciliary muscle hypertrophied. There may be shallowness of the anterior chamber, greenish color of the pupil with haziness of the humors of the eye, a cupped disc with recession of the lamina-cribrosa, an adhesion of the iris to the cornea with plastic exudates obliterating Fontana's spaces and blockading Schlemm's canal with destruction of the iridian angle. Occasionally there will be seen intercalary staphyloma at the limbus. In the glaucomatous cup the arteries wither and contract while the veins become large, engorged and torturous. There may be a pulsation of either the veins or arteries or of both, as they wind over the edge of the disc. Pulsating veins are not necessarily glaucomatous, but arterial pulsation with deep excavation and recession of the lamina-cribrosa, is always pathognomonic of glaucoma. The veins of the disc can not be seen with the same lens in the ophthalmoscope as those of the retina. To examine them distinctly a concave glass may be required, this part being of a myopic condition. The required glass would indicate the depth of the excavation.

Treatment. In the early stage of glaucoma a prophylactic treatment

is often effectual. The anomaly of refraction or accommodation is to be corrected by proper glasses. Since much attention is given to the correction of hypermetropia and astigmatism, acute glaucoma is fast disappearing. In my early practice, of more than a quarter of a century ago, scarcely a week went by without a case of acute glaucoma coming under my observation. Now I do not see more than one a month, although my practice is much larger than it was at that time. This fact I believe is due to the prophylactic treatment so universally prescribed in the correction of hypermetropia and hypermetropic astigmatism. I have found myotics very reliable in checking and aborting the disease. They contract the pupil and thereby draw the iris away from the filtration angle relieving the obstruction at Fontana's spaces and Schlemm's canal, permitting again the escape of aqueous humor, and so relieving the intra-ocular tension. As a curative treatment, eserine should be used several weeks until the intra-ocular tension has been restored to its normal. Adrenalin and dionin as exsanguinators and alteratives are reliable adjuvants. All use of mydriatics should be avoided, as their action is diametrically opposed to the desired results. They dilate the pupil and draw back the iris, folding it into the angle blockading the exit, more completely closing Schlemm's canal and the iridian angle. Indeed the use of mydriatics, from this very action, may induce glaucoma. When the disease is once established, there is but one treatment that offers any assurance of a permanent cure or relief and that is iridectomy or sclerotomy. The result of these operations in acute glaucoma have been brilliant. In the chronic form they will usually arrest the progress of the disease. If made in the earlier stages, they will often restore a portion of the vision, if not the entire amount lost. In the acute form the operation should be made as soon as possible, after the prodromal stage has set in. Every hour delayed may be valuable time lost; for this form of the disease often runs its course in a few hours, reaching full development. Among the operation for glaucoma, we might mention the following:*

1. Optico-ciliary neurectomy and extirpation of the ciliary ganglion. The latter was advised by Rohmer and requires a resection of the orbital wall. It is oftentimes difficult to find the ganglion and even when found and removed, the results have not been uniformly beneficial. This operation is only resorted to in cases of persistent pain, where it seems more advisable to make this operation than to remove the eye-ball. I have not been guilty of performing this operation.

2. Sclero-iritomy was first advised by Nicati. The section was made with a knife, which was carried through the conjunctival fold perpendicular to the plane of the iris. This operation has been practiced but little, and it is a question if it should be recommended. I would not advise it.

3. Irido-sclerotomy. This is an operation which is intended to detach the iris without cutting out a piece of it. It was practiced by Panas,

*Classified by Dr. Fridenberg in the Ophthalmic Record, 1909.

especially where the anterior chamber was shallow. The incision was made directly through the tissues of the iris both at the puncture and counter-puncture, thus really performing iridotomy. As soon as the point of the knife appeared in the anterior chamber, it was urged through the iris, carried on, pierced the iris again and appeared in the anterior chamber. Another operation, similar to this, was devised by Nicati. Instead of the knife piercing the iris it was carried across the anterior chamber at right angles and made to sever the iris at its attachment. In this, the iris is severed by a backward section from the anterior chamber.

4. Combined sclerotomy, devised by De Wecker. After making the incision with a keratome, the iris is grasped and pushed along the posterior surface of the cornea toward the center of the pupil until the adherent ciliary margin has been detached for a distance of 6 to 8 mm. Of course for this operation the iris forceps must be open when they are withdrawn from the anterior chamber, otherwise the iris might follow the instrument.

5. Incision of the iridian angle, advised by De Vincentiis. This operation is performed with a small sickle-shaped knife-needle, sharpened on the convex edge. It is applicable when the iris is rotten and difficult to remove. It is supposed to open Schlemm's canal and so relieve the filtration angle.

6. Sclero-choriodotomy. This consists in making an incision back of the limbus cutting through the root of the iris. This is attended with more or less hemorrhage and besides there is great danger of injuring the lens, and it does not guarantee any lasting filtration channel.

7. Cyclodialysis, advised by Heine, is an operation that has met with some favor. It consists in detachment of the ciliary body and iris from the sclera at the filtration angle, opening up the channel through the anterior chamber and the choroidal space. But this operation is attended with some danger of wounding the lens, and besides it is difficult to divide the sclera without injuring the ciliary body and having a prolapse of the vitreous. If the ciliary body is not injured during the incision, there will be no hemorrhage in the anterior chamber and the results may be good. However, a large per cent. of cases operated on in this way gain only temporary benefit, and there is a recurrence of glaucomatous symptoms. Mueller concludes that cyclodialysis, while it diminishes the tension in a number of cases, can not be considered preferable or even equal to iridectomy, but may be used in cases where iridectomy is contraindicated or has failed. Mueller thinks that this operation is applicable in cases of very shallow chamber, and in secondary glaucoma, where iridectomy has already been made. Several have reported good results from the operation, while others deprecate it.

8. Sclerotomy. This operation should be made under the influence of cocaine. A few drops of sulphate of eserine (¼ of one per cent.) are instilled into the eye before the operation. The section may be made at the superior or inferior part of the limbus. Enter the sclera with Von

Graefe's linear knife at one millimeter from the limbus, as if about to make the scleral flap in the extraction of cataract. The knife is pushed across the anterior chamber, making a counter-puncture at the point directly opposite its entrance, embracing one-third of the perimeter of the cornea. The knife is then urged forward, cutting with its point at the limbus, about one-third of the area embraced, and another third is cut with the heel of the knife on withdrawing it, leaving one-third uncut as a bridge.

Whereas the foregoing operations may be applicable to certain isolated cases, iridectomy is the operation which has given universal satisfaction and is pre-eminently the most reliable.

9. Iridectomy. This operation was first made by Von Graefe of Berlin, in the year 1856, and when properly made has secured better results than any yet devised as a curative agent for glaucoma. It is the operation which we rely upon. It has certainly been a great boon to humanity saving many thousands from everlasting blindness. It should be made during the prodromal stage in order to get the best results. The technique consists mainly in making the incision some distance back of the limbus well within the sclera. The keratome should be inserted just back of the limbus at the superior part of the anterior chamber just in front of the iris, taking care not to wound it, or the endothelial layer of the cornea. It should be urged well into the chamber and then withdrawn slowly so as to avoid a vacuum which might produce intra-ocular hemorrhage. If the knife is withdrawn quickly it may cause a sudden escape of the aqueous humor with probably a knuckle of the iris. The iris is now grasped with forceps near the pupillary border, withdrawn and cut with curved scissors at the ciliary attachment taking care to remove a portion of the iris at its root, so as to open the canal and re-establish drainage.* (Great care should be taken not to touch the capsule of the lens lest it produce cataract.) The size is not so important as it is to cut well back at the ciliary attachment. A flat curette should be passed into the chamber liberating any incarceration of the iris at the angles of the incision.

As a subsequent treatment, eserine may be instilled into the eye with beneficial effect. Sleep and rest should be enjoined. In sleep the pupils are contracted, when awake they are dilated; and as contraction of the pupils is desirable in glaucoma, sleep and rest should be encouraged.

DISCUSSION.

Dr. Barck thought, that Dr. Tiffany had not solved the question of whether the increase in tension or the occlusion of the iris angle came first, and he himself did not think it could be solved. At present none of the pictures shown gave evidence of inflammation of the choroid or ciliary body. He said that the connection between hyperopia and glaucoma was well known, but Dr. Tiffany had not shown what he promised;

that is: choroiditis causing glaucoma. The conditions which he had shown might just as well be explained as a result of the increase of tension.

Dr. Tiffany asked whether or not glaucoma had decreased.

Dr. Barck replied that it had not in his practice, but that his practice was only that of one man. At the meeting of the American Medical Association Dr. Hess stated that myotics cause a contraction of the ciliary muscle.

Dr. Tiffany stated that he did not claim that choroiditis was the sole cause of glaucoma, but that the constant exercise of the ciliary body in the hypermetropic eye caused hyperemia, congestion and finally uveitis which blockaded Schlemm's canal, obliterated Fontana's spaces and closed the iris angle, and, hence, a retention of the fluids which caused the intraocular tension with posterior staphyloma; all of which conditions were shown in the slides.

OSTEOMA OF THE CHOROID.*

By W. H. Schutz, M. D., Kansas City, Mo.

Pathological ossification of the choroid is not infrequently observed in phthisis bulbi, in which an early feature has been a cyclitis or a widespread chronic choroiditis.

It seems there is no definite period required for the growth of bone as it is found in the choroid in early childhood as well as in extreme old age. It is a well-known fact that calcareous deposits and bone tissue occur in all parts of the eye, with the one exception, viz., true bone has never been reported in the cornea.

In most cases the process of ossification develops in the posterior part of the choroid around or somewhere near the optic papilla. Again, independent foci may be observed in other parts of the choroid. These bone deposits assume various shapes and forms; they may appear as a band or ring surrounding the lens as small circumscribed plates, they may be so extensive as to form a continuous shell reaching from the optic nerve to the orra serrata, or form a mass that occupies the whole of the vitreous chamber.

It is conceded by modern pathologists that ossification of the choroid develops in the layer of fibrous tissue which has become organized from exudation thrown out towards the inner surface of the

*Read in the Eye, Ear, Nose and Throat Section, Fifty-second Annual Meeting Missouri State Medical Association, Jefferson City, May, 1909.

choroid. The fibrous tissue replaces the choriocapillaries, or where it is still present, the fibrous tissue is heaped up on its inner surface and destroys the lamina vitrea (Parsons). Regarding the conversion of connective tissue into bone, Stöhr remarks: "Single connective tissue fibres become calcified and on these are deposited osteoblasts, originating from embryonic cells, forming bone."

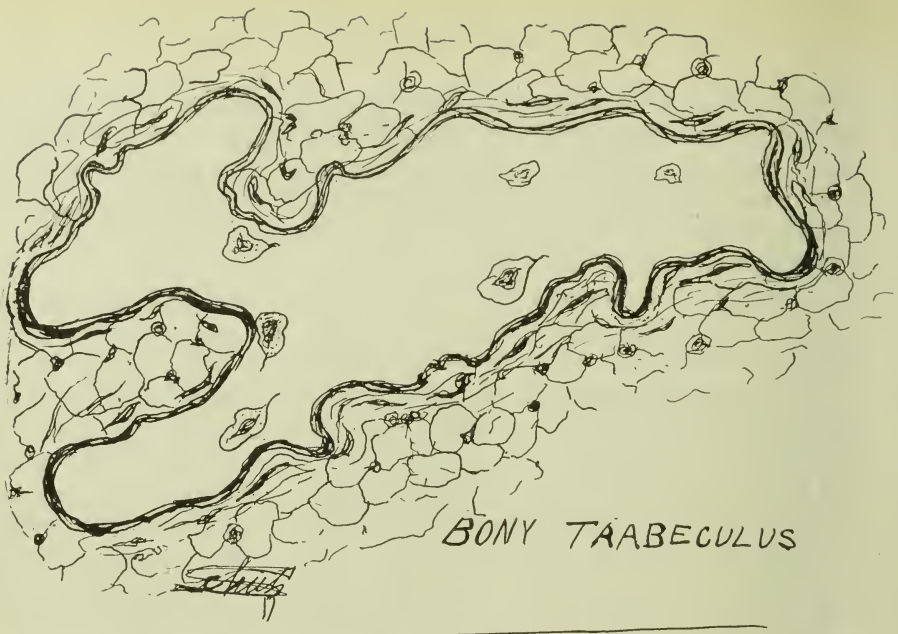
Grandclement suggests that "the embryonic cells that still remain in the choroid from fetal life are stimulated into growth by the long standing inflammation or irritation, and form fibrous tissue and bone."

Buchanan has expressed the opinion that the connective tissue corpuscles are converted into real bone corpuscles. Knapp claims that the origin of bone formation is in the choriocapillaries. He further states: "In the low stage of development the ossification begins in small plates which lie in the choriocapillaries and are covered by the hyaline membrane and the pigment epithelium. In a more advanced stage the more abundant exudation wrinkles and perforates the hyaline membrane, invests the inner surface of the choroid and is gradually converted into osteoid tissue."

Parson says: "It is not yet clear whether connective tissue cells are ultimately derived from the fixed cells of the choroid or from the cells of the capillary walls. Any connective tissue, it is said, may be converted into bone, yet it is a difficult matter to say what are really the factors that determine the commencement of such a change in the fibrous tissue that forms in the choroid or other parts of the eye."

I believe, I am safe in stating that osteoma of the choroid filling the greater part of the vitreous chamber is comparatively rare, at least sufficiently so to warrant my presenting to this section two interesting cases, with specimens for consideration.

Case I. Mr. D. M., age 53, large and corpulent, by occupation a lumber merchant, consulted me on account of rapidly failing vision. O. D. phthisis bulbi; eye congested but not painful. O. S. V=20/100; not able to read; distance and near vision not improved by glasses. Ophthalmoscopic examination revealed advanced optic atrophy. O. S. Injured forty years ago in an explosion by a piece of glass penetrating the eyeball. Eyeball became violently inflamed with total loss of sight. After many months of suffering the inflammation finally subsided and gradually the eyeball grew smaller. Occasionally, in the past forty years, eye would fire up and then quite down again. There being no apparent cause for condition in left eye that I could ascertain other than the shrunken, irritable right eye, enucleation was advised, and the hope expressed that it might be the means of at least staying the progress of progressive loss of sight. The shrunken right eye was removed. One year lated V. in O. D. remained 20-100. (Figure 1.) Cornea opaque, very thick and full of calcareous deposits, pupil occluded; iris and lens calcified. The lens was seven mm. in its longest and three mm. in its shortest diameter. It was lodged unattached in the cupped cavity of the bony tumor which



BONY TRABECULUS



OLD GRANULATION TISSUE. SPECIMEN NO. II



COLLOID BODIES

contained a liquid fluid. The bone mass is shell-like in formation, thick posteriorly (about 8 mm.) and thinner as it approached the ciliary body. The outer surface is rough and shaggy looking, having over all a brownish color; the inner surface is smooth and pearly white in color. The posterior pole is perforated.

Case II. Mr. R., aged 58, in good health, weight 300 lbs., very florid complexion; occupation traveling salesman; consulted me March 17, 1909, on account of sevère pain in right eye.

When a boy eight years of age, a piece of metal entered the right eye following the bursting of a percussion cap on an old tube gun. For two years eye was under treatment by a well known Kentucky oculist. The inflammation and pain finally subsided. Vision lost. Eye has been painful and inflamed at intervals in the past fifty years. On examination I found O. D. shrunken, divergent, red and exceedingly painful to touch. Patient in great agony since 36 hours. O. S. absolutely normal. Advised enucleation. Right eye removed the following day. (Specimen No. II.) Cornea opaque with a few calcareous deposits. Pupil occluded; iris completely adherent posteriorly; no remains of lens in evidence; sclera slightly thickened. Entire vitreous chamber filled with ossified mass, containing a cavity lined with a smooth pearly membrane.

The posterior end, about 7 mm. in diameter, is pierced by a small canal through which the optic nerve passes. Within the cavity extending from the posterior pole to the ciliary body is a cone-shaped connective tissue membrane containing a metallic body firmly embedded in the base of the membranous immediately behind the iris, which appears to be a copper substance (probably a piece of the percussion cap); the bone tumor is irregular, rough and granular on its outer surface and closely adherent to the choroid.

I am indebted to Dr. E. D. Twyman, assistant pathologist of the City Hospital of Kansas City, Mo., for the following microscopical report:

The dense shell is composed of a reticulum of bony trabeculæ. These irregular masses and spicula form an almost complete shell on the outer side. Beneath this they join together in a reticular network with spaces between. This arrangement is four or five spaces deep. The innermost projections are irregular spicula of bone.

These trabeculæ are formed of the usual bony substance containing bone corpuscles enclosed in irregular lacunæ. Processes from the corpuscles project into fine canaliculæ. There are no true Haversian systems, however, as are found in dense bone. The spaces are filled with a fine reticular network and a moderately rich collection of round cells. Some fat cells are also seen in places. As no nucleated red cells are seen and as typical granulocytes or myelocytes are not made out by even an immersion lens, it is impossible to say if this is true marrow or substance or not. The granules may have been spoiled in decalcification, however.

A larger irregular space in the center is partially filled with an organized exudate, or old granulation tissue. There are the usual blood vessels in intimate connection with a network of connective tissue fibres and round cells, which form a dense mass, only relieved by a few spaces which still retain the purplish stain of the calcareous salts dissolved from them.

The choroidal pigment is found principally in a dense line along the outer shell, but bits of this pigment are found throughout the entire specimen, especially in the granular tissue.

Along the outer margin are found a number of "colloidal bodies" (Drusen). Only a thin membrane is external to these bodies. They appear as granular oval or roundish bodies like starch granules and a few of them show a darker, brownish, roundish center, like nuclei.

110 Argyle Building.

DISCUSSION.

Dr. Klokke, St. Louis, said that the paper showed remote possibilities of an injury. The result of increased knowledge of this condition will be a more frequent removal of eyes suffering penetrating injuries. Their retention may cause the fellow eye to be affected by a progressive atrophy. This was different from a sympathetic irritation.

Dr. Carl Barck, St. Louis, said such cases were rather frequent. The fact of bone formation is very interesting, but it is not known what its causes are nor what cells give rise to it, and the theories of the different investigators vary widely. Only the terminal process is seen. The specimen shown exhibited a higher degree of ossification than is usually found. While there is not much danger of sympathetic ophthalmia, unless a foreign body is present, the eyes are usually removed because they become painful.

Dr. Schutz, in closing, said the main reason for reporting these cases was the unusual size of the tumors. Both cases were due to trauma. One eye was removed fifty years and the other forty years after injury. The optic atrophy of the other eye in the last case reported, has been checked since the removal of the diseased eye and vision remains at about 20/200.

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ECTOPIC-GESTATION SYMPTOMS IN GONORRHŒAL-SALPINGITIS CASES.*

By H. S. Crossen, M. D., of St. Louis.

I wish to direct attention to a certain class of gonorrhœal-salpingitis cases, which present a clinical picture very closely resembling that of early tubal pregnancy. These cases are not very frequent, but they are encountered occasionally in the examination of a large number of cases of supposed tubal pregnancy and when encountered they prove most deceptive and troublesome.

The deceptive combination of symptoms includes (1) missed or irregular menstruation, followed by (2) sudden onset of severe pain without apparent cause, (3) bloody vaginal discharge, (4) an increasing mass with (5) low temperature—the temperature being so low as to apparently exclude inflammation of sufficient severity to cause the symptoms. In each of the following cases, this combination of symptoms was sufficiently complete to cause a mistake in diagnosis.

Case 1. Patient, aged 32, referred to me in October by Dr. J. D. Beatty, of Troy, Mo. Gave the following history: Last normal menstruation August 10. In September went over time ten days. Felt as well as usual and supposed herself pregnant. No stomach disturbance nor breast pains. About September 20, had a scanty flow for two days. She felt well and there was no further bloody discharge for two weeks, when it started again. A day later she was seized with severe pains extending all through the lower abdomen. No shock, just pain—at times cramplike. This pain continued off and on for a week. Was confined to bed and had to be given morphia. A physician was called and made a diagnosis of abortion. No membranes passed and there was only one small clot. Was then curetted, but not much was obtained—apparently only some thickened endometrium. No fetus or membranes or shreds of tissue were seen at any time. Patient felt some better after the curetment, but still continued sick and confined to bed with abdominal pain and tenderness. Temperature 99° to 100°. Twelve days later, as there was no material improvement, the uterus was curetted again, but without result. The trouble continuing, Dr. Beatty was called in consultation. The abdominal tenderness and pains continued and the temperature then (after the second curetment) ranged from 99° to 101°.

Six days after the second curetment the patient was brought to St. Louis and placed under my care. Examination showed the uterus retrodisplaced and fixed and blended with a tender mass of adnexal origin

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extending into both sides of the pelvis. The average temperature was 100°, pulse 96, respiration 20. The lowest temperature was 99.2° and the highest 100.6°. There was evidently serious adnexal trouble of apparently recent origin, and the diagnosis lay between three conditions—(1) salpingitis following miscarriage, (2) an acute exacerbation of a chronic salpingitis, and (3) tubal pregnancy with repeated slight hemorrhages.

Against the first were the low temperature (much lower than consistent with an acute infection of sufficient severity to cause the symptoms) and the absence of evidences of miscarriage. Against the second, were the low temperature with acute symptoms, no history of preceding severe symptoms indicating old suppuration in the pelvis (though there had been mild pelvic distress for some years) and the association of the trouble with missed menstruation, followed by sudden onset of pain and the appearance of an irregular bloody vaginal discharge. If due to an old inflammatory trouble one would expect the menstrual flow to be increased instead of missed, and the pain and other symptoms to be of rather gradual onset, and increasing severity as fluctuation appeared in the mass. In favor of the third (tubal pregnancy) were missed menstruation followed by sudden onset of pain, irregualr bloody discharge, absence of evidences of a miscarriage and the presence of fluctuation in the mass associated with low temperature, much lower than was consistent with a pocket of pus. It seemed a fairly clear case of tubal pregnancy—one of the class frequently met with, where there is no great loss of blood at one time but repeated slight hemorrhages with a gradually increasing mass. Accordingly that diagnosis was made.

On opening the abdomen no tubal pregnancy was found. The trouble was chronic adnexal inflammation—there being a tubo-ovarian abscess on the left side (which gave the fluctuation) and chronic salpingitis on the right side, the remaining part of the mass being formed by adhesions and exudate. The damaged adnexa and the chronically inflamed appendix were removed and the uterus fastened forward. The patient made a prompt recovery with complete relief.

Careful bacteriologic investigation of the removed adnexa showed no bacteria of any kind. This excluded recent infection. The case was evidently one in which there was a gonorrhœal infection long ago (there were confirmatory facts in the history), the development of pyosalpinx with only slight symptoms of a mild character, the death of the bacteria (which commonly takes place in gonorrhœal pyosalpinx) and the persistence of sterile pus in a sac which acted as an irritating foreign body in the pelvis. No evidence of pregnancy was found. Why the menstruation was missed, I can not say. In some other cases of gonorrhœal salpingitis I have encountered this misleading symptom.

Case 2. Mrs. D., aged 21, admitted to the Gynecological Department of Washington University Hospital. Gave the following history. In November, missed menstruation. Had nausea and vomiting in the

mornings and in December noticed sensation of fullness in the breasts. There appeared an irregular bloody discharge twice in December, the last time on the 26th, from which date it continued until the patient entered the hospital on January 9th. She came for treatment on account of rather severe pain which had appeared the last few days in the right ovarian region. This was so severe that she had had to stay in bed on the previous day. The patient had been married five years, and her history indicated that immediately following marriage there was an attack of gonorrhœa resulting in pelvic inflammation. This troubled her more or less for a year, when she recovered completely and for four years had had no pelvic trouble of any kind, except some leucorrhœa.

On admission her temperature was 100.6°, pulse 90, respiration 24. Examination revealed a tender mass to the right of the uterus, evidently adnexal. The temperature late that day was 101°, and the next day was 99° in the morning and 101° in the evening. After that the temperature remained low, ranging from 98° to 99°, only once reaching 100°. The patient was kept under observation and palliative treatment for twelve days. There were irregular attacks of pain in the pelvis and the mass gradually enlarged. The missed menstruation, followed by irregular, bloody discharge, onset of severe pains, development of a mass in the tubal region, and persistent enlargement of the mass with continued low temperature, seemed to justify a diagnosis of tubal pregnancy, which diagnosis was made.

When I opened the abdomen no pregnancy was found, but instead a right pyosalpinx (chronic), which undoubtedly dated from the previous gonorrhœal inflammation, though it had given practically no symptoms during the period of four years. The pus sac was removed and the patient recovered.

Case 3. Patient aged 19, referred to me by Dr. Geo. F. Chopin, of St. Louis. Gave the following history. About two weeks after marriage she failed to come unwell properly. At the menstrual time there was a slight bloody discharge, but not a good menstrual flow. There was some soreness and pain in the pelvis. After this had continued a few days, she was seized with sudden severe pain in the lower abdomen, accompanied by shock. With the weakness and faintness and pain she could hardly move, even to turn over in bed, for several hours. The severe pain gradually subsided but marked soreness remained, so much so that the patient was obliged to lie very quiet. A physician, who was called, examined the patient and said that she was having a miscarriage. A partial curetment was carried out but only a small amount of blood was removed, and no fetus, membranes or large clot was passed at any time. The patient and her husband then became uneasy at the apparent seriousness of the trouble and the day after the curetment called Dr. Chopin, who asked me to see the patient.

The patient was confined to bed with pain in the lower abdomen and a bloody vaginal discharge. There was marked tenderness on abdominal

and bimanual examination, and there was a boggy induration on each side of the uterus, and marked tenderness. No membranes nor shreds were found in the cervix nor in the bloody discharge. The discharge was blood and mucous, without noticeable pus admixture. The trouble seemed to be around the uterus rather than in it. The temperature was low, fluctuating between 100° and 101°. Here was a patient, apparently previously healthy, seized with severe abdominal pain and decided shock, associated with imperfect menstruation, an irregular bloody discharge, a tender mass partially surrounding the uterus and low temperature. I made a tentative diagnosis of tubal pregnancy with some internal hemorrhage, but not being entirely satisfied, I concluded to watch the case for a while. Under mild sedatives, and strict confinement to bed, the patient became very comfortable. The temperature ran about 100°. After a few days she felt so much better that, without my permission, she began to go to the washstand. On one of these trips across the room, she was seized with pain and almost fainted before she could reach the bed. There was then more pain and pelvic soreness and an increase in the tender mass about the uterus. I then insisted on the patient's removal to the hospital, where she was kept under observation for five days longer. On admission the temperature was 101.2°, pulse 100°, respiration 24. There was considerable abdominal pain, requiring a sedative occasionally. The next day the temperature was 99° and for four days did not go above 99.6°. In the meantime the patient felt comfortable, could sleep well, her appetite returned, and the pelvic soreness diminished. The bloody discharge continued. The fifth day, without apparent cause, the abdominal pain returned and became very severe. The pulse rose to 132°, temperature 100.6°, respiration 24°. On examination the tender pelvic mass was found to be larger. The tentative diagnosis of tubal pregnancy seemed confirmed by the spontaneous recurrence of severe pain, the rapid pulse, and the continued enlargement of the pelvic mass, with low temperature.

When I opened the abdomen, I found there was no extrauterine pregnancy, but instead an acute double salpingitis, with leakage of pus into the peritoneal cavity and the formation of extensive adhesions. The tubes were so badly damaged that I thought best to excise them. After establishing free drainage of the infected area, I explored the interior of the uterus thinking that possibly there had been a miscarriage after all, with infection following it. But no evidence of pregnancy was found. The patient recovered without particular incident.

Examination of the pus from the tubes showed gonococci in abundance and in pure cultures. The case was one of gonorrhœal infection following marriage, the infection affecting the vagina but slightly and passing rapidly up into the uterus and tubes and out into the peritoneal cavity. A striking fact, and perhaps the most misleading one in this particular case, was the absence of the usual evidences of acute gonorrhœal vaginitis (burning on urination, vaginal tenderness,

and free purulent discharge). These were so slightly marked that there was no suggestion of the trouble being acute gonorrhœa. Had I examined the bloody discharge microscopically, gonorrhœa would at once have been evident. Had the discharge been frankly purulent this examination would of course have been made, but being bloody, its purulent character was obscured.

Case 4. Mrs. B., aged 27, admitted to the Gynecological Department of Washington University Hospital. The previous history is somewhat uncertain, but the more prominent facts were that she had been sick for two or three weeks with some abdominal trouble characterized by a sudden onset of severe pain, a continuous bloody vaginal discharge, an increasing mass in the lower abdomen, and not much fever.

When admitted the patient was very sick, with a large tender mass in the right side of the pelvis and lower abdomen, and much peritoneal irritation. Temperature 97.6°, pulse 116, respiration 24. During the afternoon the temperature went to 102° and the pulse to 124. The next day the temperature varied from 99.2° to 100.4°. After that it ranged from 98.6 to 100, only twice getting as high as 100.6 and never above that. The patient was kept under observation for seven days. The process continued active and progressive. The abdominal pain was very troublesome and required sedatives. The mass gradually enlarged until it extended almost as high as the umbilicus. The low temperature seemed to exclude inflammatory trouble of sufficient severity to cause such a mass, and particularly such rapid enlargement of the mass. The case was closely observed and carefully studied. No hypothesis explained the conditions present so well as ruptured tubal pregnancy, with repeated hemorrhage and resulting irritation and exudate. Accordingly that diagnosis was made.

The operation revealed a large abscess occupying the pelvis and extending almost to the umbilicus. There were no blood clots or other evidences of tubal pregnancy. Everything was so matted together that no attempt was made to separate the various structures. The pus was evacuated and the cavity drained. The patient made an excellent recovery. The exact cause of the abscess was not certain, but it was supposed to be of tubal origin and probably arose from a gonorrhœal pyosalpinx.

It may be thought that the temperature of 102 for a day was enough to exclude tubal pregnancy as the causative factor, but such is not true, for in many cases of extrauterine pregnancy with hemorrhage, the temperature will run up temporarily to 102 and higher. The following is a case in point. Mrs. P., aged 31, admitted to the Gynecological Department of Washington University Hospital. On admission her temperature was 101.4 and pulse 140. She gave a clear and typical history, and the diagnosis of ruptured tubal pregnancy was positive. However, the hemorrhage had been so severe, that she was in very poor condition for operation. The hæmoglobin had been reduced to 30%, which made opera-

tion or even anesthesia alone very dangerous. As the hemorrhage had stopped and she was improving, it was decided to defer operation until it could be carried out with less danger. The waiting period was seven days. During that time the temperature went up to 102 nearly every day and one day reached 103.4. After seven days the blood condition had improved (hæmoglobin above 40%) and she was so much improved otherwise that operation was carried out. There was no pus in the peritoneal cavity—simply the unabsorbed blood. The patient recovered promptly.

Time will not permit my going beyond these personal experiences in detailing cases of this character. However, a number of such cases have been reported in the literature of the last few years—sufficient to show that they constitute a distinct and important class, intimately connected with the differential diagnosis of tubal pregnancy. I trust that this presentation and discussion will aid in calling attention to these cases, that they may be watched for and studied closely and the difficulties overcome.

From the cases I have studied thus far, the following practical deductions may be drawn:

1. Gonorrhœal pyosalpinx, after the acute symptoms subside, may lie dormant and unsuspected for a long period, even as long as four years. During this quiescent period there may be no indication of its presence and the patient may feel practically well. In these cases the pus-tube (containing sterile pus usually) seems to be tolerated the same as a small tumor or other non-irritating foreign body in the pelvis.

2. Such a quiescent pus-tube may, at any time, give rise to an acute attack of pain and disability. The onset of the pain may be so sudden and apparently causeless as to suggest tubal pregnancy. And the suggestion is strengthened by the continued progress of the trouble (enlargement of mass from irritative exudate, with resulting pain) without decided fever (for the pus is sterile).

3. Accompanying the exacerbation or preceding it, there are sometimes other symptoms which we associate with tubal pregnancy, viz., missed menstruation, stomach disturbance, tenderness of the breasts, and softening of the cervix uteri. The last three are accounted for by the peritoneal and peri-uterine irritation and congestion, but why there should be delayed or missed menstruation at this inopportune time, I do not know. One would suppose that the irritation and pelvic congestion would cause the menstral flow to be excessive rather than absent. It is possible that the temporary suppression of menstruation (from some nervous disturbance or other obscure cause) stands in a causative relation to the acute exacerbation with its subsequent symptoms. I offer this simply as a suggestion toward a possible explanation of this strange and misleading sequence of events (the missed menstruation followed by the other symptoms detailed).

4. In cases of supposed tubal pregnancy of the type mentioned,

particular care should be taken to exclude chronic gonorrhœal salpingitis, as follows: a. By inquiring into the patient's *history* for evidences of specific vaginitis or urethritis, and for subsequent pelvic symptoms. An inquiry into the husband's history, also, may bring out valuable information. b. By a careful *examination* for evidences of a chronic urethritis, bartholinitis, endometritis or salpingitis. c. By *staining for the gonococcus* any suspicious discharge that may be obtained from the urethra, vulvo-vaginal glands, uterus or vagina. In chronic cases, negative findings do not exclude gonorrhœa, for the gonococcus disappears from the discharge after a time.

5. In rare cases, *acute* gonorrhœa may extend rapidly through the uterus to the tubes and peritoneum, with so little disturbance of the vagina and vulva as to arouse no suspicion of its presence. In such a case, the acute perintoneal symptoms will come on suddenly and without apparent cause. If there happens to be also delayed or scanty menstruation, tubal pregnancy may be suspected. And this suspicion is strengthened by the stomach disturbance, the softening of the cervix, and the enlarging mass beside the uterus. In the case above mentioned, the diagnosis was further obscured by the curetment (which modified the discharge) and by the continued low temperature, which seemed to exclude acute inflammation. In all such doubtful cases with acute discharge, it is advisable to examine for gonococci, even though the discharge be scanty and bloody and apparently non-purulent.

310 Metropolitan Building.

DISCUSSION.

Dr. Hyde, Kansas City: My observation that these cases occur more frequently than some of us believe is brought home to me because of a case I operated on a week ago. The symptoms of ectopic gestation complicating salpingitis, outlined by the doctor, were observed in my case. We were not certain as to the diagnosis. A curettement was done and no blood clots were removed. An abdominal section was done. On going through the peritoneum I found that I had entered the urinary bladder, having made an incision about an inch long. This was closed and another incision made in the peritoneum, and I found a large salpingitis on both sides, with much pus. The tubes were removed and the patient put to bed in the Fowler position. The patient got along nicely and was soon out of danger.

Dr. J. D. Griffith, Kansas City: It seems to me that this excellent paper appeals to every one of us who does belly work. We all find ourselves, not infrequently, confronted with the problem of what we may find on the other side of the uterus. The essayist has certainly called our attention to the condition of the uterus itself in acute gonorrheal trouble, and has demonstrated to us the fact that although the patient may have missed a period by ten days or two weeks, or longer, or that there is a bloody discharge and a softening of the womb, not infrequently

it seems just as though it were a commencing gestation. Here is the point that he has called to mind, that we cannot be too careful in examining the secretion and even the blood coming from that woman. It is the experience of most of us, perhaps, that we have at times made a diagnosis of extrauterine pregnancy, but when we cut down into the abdomen we find a pus tube. Now, I experienced the reverse of that a few weeks ago, with a history such as the doctor has described, of a lady who was a widow, young, pretty, etc., and she had never dreamed of any trouble of this kind, of course. There was a little bloody discharge for five or six days, painful side, with the belly distended somewhat, and she had a sudden onset of trouble. Her kidney on one side had been painful, and the doctor who brought her to me said there was a stone passing down the ureter which he wanted to get out. I asked the doctor if she was married. He answered that she had been married but was not now. I said, "We may have something else here." He said, "No." When we put here on the table there was no stone in the ureter, and the kidney was normal, but there was a mass in the tube.

Dr. A. R. Kieffer, St. Louis: I had a case of a married woman seized by a sudden onset of excruciating pain on the 22nd day of February. The pain was localized in one side. She sent for a doctor who discovered a lump, as he described it, in the pelvis. A diagnosis of fibroid was made.

Now, in every case of ectopic pregnancy that ever came under my observation, I find that the woman at some time had suspected that she was pregnant, where I have been able to investigate thoroughly. In the case I am describing, I could not get that symptom. She did not have any tenderness of the uterus, and she had never missed menstruation. Just prior to the 21st of February she was a little late.

We opened the abdomen and found a mass of pus which must have been there a year or more. There is a peculiar apprehension combined with cases of ectopic pregnancy that points strongly to its presence. In addition to that, if they go far enough, the menstruation is always atypical in every respect.

Dr. C. Lester Hall, Kansas City: These cases were interesting to me for the reason that I have had some similar experiences, and I want to say that I have not seen a case of extrauterine pregnancy where the disease existed at the time of the pregnancy, nor do I believe pregnancy possible if the disease exists at the time. There must be a healthy tube or pregnancy will not take place.

DYSMENORRHŒA.*

By JOHN MCH. DEAN, M. D., St. Louis, Mo.

In the general acceptation of the term dysmenorrhœa we mean to designate painful menstruation; but I believe the word menorrhalgia could best be substituted. Dysmenorrhœa is therefore merely a symptom and not strictly speaking, a disease in itself. The subject of this paper is a very wide one, and must of necessity carry us in various directions; and the brief time allotted to each paper would not permit of my going as fully into the subject as the subject itself might demand. I shall therefore confine my remarks to the sources and treatment of the different varieties.

Painful menstruation occurs in different percentages according to the surroundings, occupations and climatic conditions. We can rightfully state that it occurs in at least 5 per cent. to 15 per cent. of menstruations, and from this we must exclude, naturally, the trifling indispositions which occur in nearly all menstruations and include only those which give rise to severe pain, very often requiring the sufferer to go to bed.

Women accustomed to out-door exercise, or those engaged in work that requires much physical labor, suffer less than those whose lives are spent in sedentery pursuits, or who are compelled to work indoors. Painful menstruation is frequently present in women who have, or will have, very painful parturition. Savages suffer less than the cultured, and we can correctly infer that good muscular development is a factor in normal menstruation. The use of corsets and taut lacing is a fruitful cause of painful menstruation owing to the fact that maybe the genitalia are displaced or congested. Women living in high altitudes generally suffer more than those in low altitudes.

As to the varieties of dysmenorrhœa I may mention the following:

1. The neurotic type, or that in which the nervous system is the main factor.
2. That due to congenital defects in the genital organs.
3. That due to acquired or pathological defects in the genital organs.

Of the first type I may say that at least one-third of all menstrual pain can be placed in the neurotic class. Hysterical and neurasthenic patients suffer very frequently at the menstrual period. When we consider the nerve supply of the female genitalia the second, third and fourth sacral nerves ramifying with the sympathetic, aortic and renal plexuses, we cannot help concluding that a nerve storm in any remote part of the

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anatomy is likely to show itself in the female genitalia at the menstrual period. Hot flashes, apical, intercostal, mammary, inguinal neuralgias are common concomitants to menstruation. Constipation existing at the time of menstruation may irritate reflexly this rich nerve supply to the genitalia, and produce pain. The most common manifestation of this variety is the spasmodic or cramp-like pains in the inguinal, lower intercostal, lumbar and hypogastric regions. Macular and papular eruptions on the face, and as I have recently seen, herpes occurring at the menses, are neurotic manifestations. I have seen a patient whose nose would tingle and become scarlet red during menstruation. Fainting spells and throbbing headaches belong also to this class. Meteoristic distention caused by an intestinal paresis secondary to the increased blood supply is a common symptom of the neurotic. On the whole those cases of painful menstruation not accompanied by any observable change in the genitalia correctly belong to the neuroses. As to the second variety we include those congenital defects as absence or faulty development of the genitalia; rudimentary uterus or ovaries. Atresia of the uterine canal is a frequent cause of dysmenorrhœa. Some malpositions and flexions of the uterus belong in this class.

As antiflexion is congenital and seldom acquired, we do not find dysmenorrhœa unless the flexion causes obstruction to the exit of the menstrual flow. Whether the pain is due to actual obstruction or the result of hyperesthesia and muscular spasm is a disputed point. Observers have noted that during menstruation the cervical canal is more patent than at any other time, and some have examined patients with marked antiflexion whose canal between the periods would not permit the insertion of a small probe, during the period their canals were found open and the probe could be introduced with ease. Still, dilatation of the uterine canal prior to menstruation remedies a certain percentage of these cases of dysmenorrhœa.

Congenital absence of the ovaries naturally produces an amenorrhœa. I have, in the last year, examined two patients; the one had an absence of the uterus and ovaries (as far as I could make out) and in the other the ovaries were absent. These patients manifested nervous symptoms, and one had regular monthly pain without flow.

As to the third variety we include pathological conditions of the genitalia. Almost all pathological changes may produce dysmenorrhœa, and yet we are often startled to find very serious changes that are absolutely unaccompanied by painful menses. Why this should be so is a question I am not able to explain. We know from observation that sometimes very extensive pleurises do not produce the excessive pain that even slight forms often do and so we must conclude that the severity of menstrual pain is not always in proportion to the pathological condition existing.

Lacerated perineum allowing some procedentia and lacerated cervices produce pain. This pain is more of the spasmodic or sharp lan-

cinating character. Endocervicitis, endometritis and salpingitis are also causes. Whether the ovaries can be blamed is a disputed point. True it is, that enormous ovarian cystic tumors exist without pain. I have repeatedly seen large cystic ovaries in women who never suffered at the menstrual time. The localized pain so often complained of in the ovarian region is in the majority of cases not due to ovarian disease, but is a referred or neuralgic pain. This point I have, in the last year, had a good opportunity to investigate. Two patients came to me with severe pain during menstruation localized to the ovarian regions. I observed them closely for some time. Finally the pains became so acute and the patients complained so bitterly, that I explored the ovaries and genitalia. In the first I found a small cystic ovary which I excised, leaving the ovary intact. She also had a slight retroversion which I adjusted. Much to my dissatisfaction the patient suffered the same pain, which was just as intense, after the operation as before. Finally I persuaded her that she was perfectly normal, and after several months she learned to forget her pain.

The other was operated six months later. Finding the same condition, and remembering my experience with the former case I decided to remove the cystic ovary, which was about the size of a small lemon. No other abnormal condition could be found to account for the intense pain that was troubling her. This patient also returned at the next menses suffering the same intense pain. This pain continued for three months, when she became pregnant. She aborted in the third month and subsequently her ovarian pain returned.

The above two cases undoubtedly will voice the experiences of others who allow neurotic dysmenorrhœa to be attributed to cystic ovaries. Other observations have led me to believe that true uncomplicated ovarian dysmenorrhœa is a very rare disease. Hydrosalpinx, hematsalpinx, and pyosalpinx are frequent sources of pain at the menstrual period. The pain is somewhat of a cramping nature, sometimes described as a throbbing localized one in the inguinal, lower intercostal, and running towards the back. In pyosalpingitis we have as an accompaniment, fever, headache, vomiting at times. In ovarian hematoceles we may have the throbbing pains. The pains are often in a peculiar way localized to the lower intercostal regions at menstruation. An endometritis is often responsible for the pain, especially that rare form, membranous endometritis. Casts of the endometrium are thrown off with labor-like pains.

Retroversion caused either by a faulty management of the puerperium, *i. e.*, resulting subinvolution of the uterus, or by strain, or by a tumor of the fundus, causes that boring like pain in the sacral region during menses. Gastric symptoms often simulating ulcer very frequently are manifested in this class.

At present I have a patient suffering from dysmenorrhœa, the

result of a retroversion produced by a fibroid in the fundus who manifests these symptoms.

Submucous fibroids cause painful menstruation more often than the intramural or the subserous. The reason for this is that mechanical obstruction is greater than in the other forms.

Sarcomas and carcinomas are rare causes. Pelvic hematoceles and abscesses do not cause so much pain as one would imagine. The laity's idea of "catching cold," either due to exposure or cold bathing during the menses, causes a sensation of pain from secondary congestion due to the spasmodic closure of the os or to the coagulation of the flow.

As to the treatment of the first variety, *i. e.,* the neurotic, I would first suggest a change, either in their social condition, for many dysmenorrhœas disappear after matrimony, or in their occupation. Advise plenty of fresh air, open air exercise, tennis, golf, surf bathing. Cold bath in the morning may tone the nervous system. If they are confined to work indoors in a standing position, advise a change of occupation, or if their condition is very severe have them give up work and if need be place them on an absolute bed rest cure. If anemic, and then we may notice a scanty flow, prescribe iron either alone or in combination with aloes. In cases of constipation it is well to treat same in the intervals by diet, regular habits, water, or medication. It is surprising how much benefit a saline cathartic taken at the beginning will have in allaying these pains. Helonium, viburnum, gum guaiac in 10 grain doses, three times a day and antispasmodics are very beneficial in these pains. Bromides, aspirin, codein, or even opiates may be indicated in some cases. The hot sitz bath and hot stimulating drinks, brandy, gin, hot applications to the lower abdomen are good means to adopt in the beginning. It is surprising how a little gin, in severe cases, alleviates the pain in the beginning. In some parts of Europe this is used often. Psychic therapy finds here a fruitful soil for its use.

Above all we must be certain, after a careful examination, that our patient is not suffering with an organic dysmenorrhœa. It has been my custom to observe a case thoroughly for several months and if relief does not come from following out the various methods above mentioned, to place the patient under a general anesthetic in a hospital and make a thorough examination. I believe in this way we do away with the temerity and modesty that would otherwise mar the accuracy of our examination, and furthermore we can pursue the given examination with more justice to ourselves. It is also very important that we do not lose sight of the fact that our patient, while she may be suffering from some slight abnormal condition in her pelvis, that her dysmenorrhea may be purely of a neurotic variety. I am strongly of the opinion that often when slight abnormalities are left alone patients do better than when we call their attention to same. In making the patient cognizant, or aware of her condition we may seriously affect her nervous system. Unless marked symptoms demand interference, I am of the opinion that we

should leave well enough alone. Pelvic abnormalities sometimes are allied to or resemble movable kidneys. We know how often movable kidneys are symptomless subjectively until recognized by physicians.

With regard to the congenital defects, I may first consider antiflexion with strictured or narrowing of the canal. Not all antiflexions cause obstruction and consequently not all require dilatation of the canal. Like retroversion, antiflexion exists without symptoms and therefore no surgical operation is indicated. Where there is a certain obstruction I believe in dilating and either packing the canal with gauze, allowing it to remain in place for two or three days, or by inserting Wylie stem pessary under strict aseptic precautions. The use of this pessary has been followed by very gratifying results in my practice. The patient is allowed to wear it for several months without withdrawing it. Menstruation takes place through the groove in its shaft. While there are many who cannot wear same without considerable pain, some have been known to wear them for six months or longer. In our desire to keep the canal patent we must not lose sight of the fact that this stem pessary will in many cases cause irritation and subsequent endometritis or pelvic infection. I have used the pessary in six cases. Two of these wore it for three months and the result was ideal. I prescribed antiseptic douches daily. In two the pessary was worn for a week and at the end of that time I could see that some irritation was beginning and I removed it. The others could only wear them for 24 hours owing to the pain. However, all were benefited. In very severe cases double, complete splitting of the cervix has given good results. The operation advised by Dudley, while it may have its application in some cases, must necessarily be serious should pregnancy take place.

In one case of antiflexion my patient's monthly flow consisted of a dark green fluid, evidently the result of retention.

With reference to the surgical treatment of retroversion we have in the Gilliam operation an efficient means of remedy. The round ligaments should be shortened through the inguinal canal and the practice of making a new opening through the peritoneum must be condemned as unnecessary and dangerous. Ventral fixation on account of the many troublesome symptoms following same is not a good procedure. The various intra-abdominal shortenings of these ligaments fail unless the ligament is fortified by a linen stitch at the internal abdoninal ring.

In the treatment of salpingitis (simple) the use of hot sitz baths daily and the use of ichthyol tampons, often afford relief. The symptoms produced by this condition, such as slight fever, headache, generally apical, vomiting, distention of the abdomen with marked tenderness, may become so troublesome as to warrant the removal of the Fallopian tubes. Should the ovaries be found in good condition they may be allowed to remain to offset the nervous symptoms that so often follow their removal, and allow menstruation to continue.

In several of my salpingectomies I have retained the ovaries, but in

some I noticed that the subsequent menstrual flow was so profuse that I later wished I had removed them. In one of my patients I was compelled later on to remove the one ovary I left in place, to do away with the severe hemorrhage that accompanied each menstruation. I am strongly of the opinion that where the condition demands the removal of the tubes, in our endeavor to be conservative, we often make mistakes in allowing the ovaries to remain.

Pyosalpingitis demands the removal of the tubes and, for the above reason, the ovaries.

Fibroids and other tumors of the uterus require the removal of the tumors and if need be the uterus itself. Here again, I believe, the preservation of the tubes and ovaries is not always the best surgery. Frequently in hysterectomies for fibroids I have preserved the ovaries only to have them become painful, either due to adhesions forming around them or to the periodic congestions. Again we are not always certain that our apparent simple tumors may not be malignant and should we, after our pathological examination in the laboratory, find malignancy, we will then have reason to regret our conservatism.

Malignant tumors of uterus demand the Wertheim operation when expedient. The promiscuous removal of normal adnexa to relieve neurotic dysmenorrhœa must be condemned. As we are all aware that seldom do we find an ovary without small cysts, these cysts do not constitute sufficient ground for their removal. In dysmenorrhœa the result of the passage of blood clots or casts we must bend our efforts to the causation which is found often in the endometrium. Curettage and cauterization of the endometrium affords relief in this class.

In concluding this brief paper I wish to emphasize the following points:

Ovarian dysmenorrhœa is a rare disease and the localized pains in the ovarian regions during menstruation are most frequently referred from some other remote cause.

Uterine displacements do not *ipso facto* call for operative procedures. Very frequently serious disease exists in the genital organs without producing painful menstruation.

A great majority of cases of dysmenorrhœa are neurotic. While this may be the case we must only conclude a case to be neurotic after a thorough examination has been made under an anesthetic. That in removal of pus tubes or the uterus for tumors it is well to remove the ovaries at the same time. Especially should this be done if our patients are past forty years. This step should be taken in tumors lest we have malignancy and in pysolpingitis lest we have menorrhagia subsequently. That the Wylie stem pessary is very beneficial if used carefully in selected cases.

DISCUSSION.

Dr. A. H. Bradley, St. Louis: I do not want to suggest this as a general treatment, but I want to ask Dr. Dean if he has ever tried the

use of cocaine in the nose for these neurotic forms of dysmenorrhea. Like Dr. Crossen, in regard to the treatment, I believe that usually curettement is most effective. If there is not an obstruction or some anatomical difficulty, if it is a neurotic case, and cocaine applied in nose, there is a tendency to take away the effect on the mind, and they are inclined to forget it. I have seen several cases very beneficially treated by application of 20 per cent. cocaine solution to the turbinate. Of course, if you allowed the patient to know what the treatment is, there would be some danger of her forming the habit.

Dr. Bridges: I understood the doctor to say that he had one case with pain where there was congenital absence of the ovaries. I would like for him to state whether that is correct. I probably misunderstood him, as it seems a little peculiar to me.

Dr. Dean, replying to Dr. Bridges, said that a neurotic patient on whom he operated for gastric adhesions, showed the absence of both ovaries. The patient gave a history of abdominal pain that came on periodically but was not followed or accompanied by any menstrual flow.

THE OPEN METHOD OF TREATING INFECTED JOINTS; WITH REPORT OF A CASE.*

By John D. Seba, M. D., Bland, Mo.

It is not the intention of the author to elaborate the etiology and pathology of septic arthritis. This condition might be brought about from different sources of infection and by different infectious agencies. The ones that most generally call for surgical intervention are infections of staphylococcus or streptococcus. The infection may reach the joint through a wound, by way of the blood vessels, or through the lymph channels.

The condition then, of septic arthritis, is the condition that most often calls for arthrotomy. When first seen by the surgeon most of the cases are in the acute stage. The patient is suffering from pain in the affected joint, due to tension from the effusion in the joint of septic material. If absorption from the joint into the general circulation has taken place, the patient has had a chill followed by an elevation of temperature. When such a condition presents itself, there is no use in temporizing, or in further jeopardizing the comfort, or even the life of the patient, by waiting. An arthrotomy should be done. The pent-up septic

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material should be given a chance to escape. Drainage should be provided for the escape of other infectious material that may accumulate.

The opening of a joint is generally best accomplished under a general anesthesia. A careful examination of the affected joint while the patient is under the anesthetic, will reveal to the surgeon the best point for making the incision. In some instances it is better to make two incisions rather than one incision only. The most dependent point will suggest itself to the surgeon. The end to be obtained is to have as good drainage as possible. Most of the text books recommend rubber tubing; personally, however, I prefer sterile gauze to rubber tubing. Irrigating the joint cavity with a saline solution is beneficial. Some text books recommend antiseptics in the joints, especially peroxide of hydrogen. Personally I do not believe that they are of any benefit, and very often they are harmful. The use of peroxide of hydrogen very often causes a distention of the joint and subsequent pain; the resulting foam, or effervescence of the fluid, if left in the joint cavity, is about as deleterious as the infectious material itself. The text books also recommend that the joint be put in an immobilizing splint, thus putting the joint at enforced rest. I question the wisdom of this procedure. Immobilization of a joint is not a physiological rest. The physiology of a joint is motion. As soon as joints are formed in the fetus they are supplied with stimuli that cause motion. Hence motion is a physiological action; when it is interrupted by a pathological condition the physiological function should be restored as soon as possible. Viewed from this standpoint I can not see any necessity for immobilization of an infected joint that has been opened and drained. Early passive motion will have several advantages over an immobilized joint. The motion will have a tendency to drain the joint more perfectly. The motion will also prevent early adhesion. If a joint comes under the observation of a surgeon before there are adhesions, and he operates on it in time, adhesions should not form after he is put in charge of the case. He can open the joint and drain it. He can prevent adhesions of the synovial membranes by motion of the joint. Too many surgeons still pin their faith to antiseptics in these cases, which are very often applied liberally with the hope that they will penetrate the tissue, hunt out the germs and kill them; their hopes are altogether too sanguine. Many of them never stop to think that a dead germ, if left in the tissue, is as much of a detriment as the living. Then, too, antiseptics strong enough to kill the germ are also strong enough to kill the protoplasm that repairs the injured tissue. By this statement I do not want to be understood to mean that we should not use aseptic precaution in preparing for and executing the operation of arthrotomy; on the contrary there should be as much precaution in an arthrotomy as in a laparotomy. Asepsis is much to be preferred in either procedure to antisepsis. The after-treatment in arthrotomies should be: first, to keep the joint in as comfortable a position as possible. Replace the gauze drainage at least once every twenty-

four hours. After having removed the drainage and before putting in another, give motion to the joint in all physiological directions of the joint; then replace the drainage. Before putting on the dressing give gentle massage to the injured member, first give the muscles above the joint a brisk rubbing, then the muscles below the joint, and complete the massage by manipulating the joint itself. This is probably best done by first using the tips of the fingers, gently following the outlines of the joint and finishing up with the flat hand. The massage is for the purpose of aiding circulation in the affected parts. To repair an injury, it must receive pure fresh blood. If we only stop to think for a moment; blood is the only medium by which the process of repair is accomplished. Then why do we want to impair this circulation by immobilizing splints and bandages? They are certainly contraindicated. Well applied massage will aid the circulation in the affected parts and will put more life blood in the tissue surrounding the injury than any other method I am acquainted with. It will produce a hyperemia and in that way will aid nature in repairing the injury.

In trying to overcome a pathological condition we should ever be vigilent to try and imitate nature's methods in repairing damages done to the tissue. Whereever or whenever we find an inflammatory process, we will find upon close investigation that it is really a conservative effort at repair, not a process of destruction; therefore we should be ever willing to follow along the way pointed out by nature.

The author is glad to note an advancement along this line. In the good old days now passed, it was the practice of surgeons to put a fracture in a fixed splint and then not look after it for two or three weeks; often to find that the bones were not in good apposition. The more conservative surgeon will not now trust to Providence and good luck in such cases; but take off the bandage much sooner and thus know how the fracture is getting along. Such a procedure will greatly add to the comfort of both patient and the surgeon; both will sleep better at nights than if the old method be followed.

The same method of putting on an immobilizing splint and not looking after it was also in vogue several years ago in the treatment of sprains. This method I am happy to say is also falling into disuse. A sprain kept at rest for a few hours with a snugly fitting bandage, then removed and gently massaged, first with the tips of the fingers, then with the palm of the hand, will do better than if put in an immobilizing splint and kept there for days.

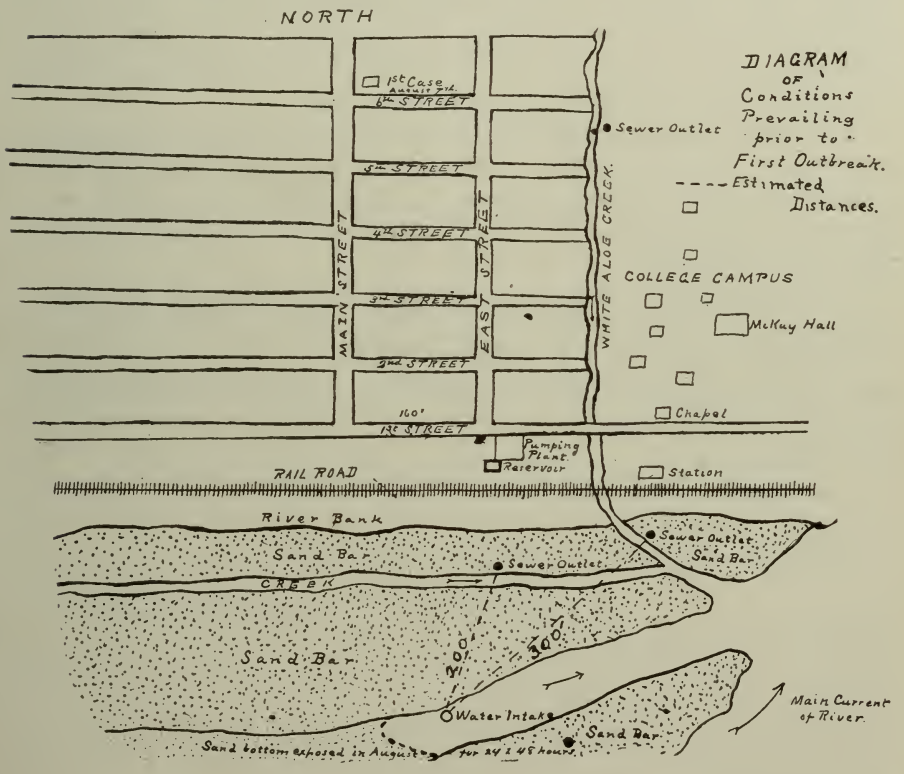
I shall only mention one case: Mr. T. S., aged 21 years. A year ago last October while harvesting corn, cut his right leg with a corn knife. The cut was five inches in length, on the inner side of the lower third. The wound went through the tissue and also injured the periosteum. A surgeon was called who repaired the wound three hours after the injury, by putting in thirteen stitches. The wound must have been infected at the time of the injury. Sepsis soon developed, inflam-

ing the leg from the foot up to the knee. The attending surgeon was discharged from the case about three months later. The physician employed after that was also discharged in a few months. I saw it in consultation with Dr. O. about the middle of November last. The infection at that time extended from the foot to the lower third of the leg. The joint had been infected, probably from septic material draining from the cut along the tibia into the ankle joint. The joint was being drained through the heel. We operated under a general anesthetic. We opened the joint over the inner malleolus; drainage was by packing the synovial cavity with sterile gauze which was removed once every twenty-four hours. The after-treatment consisted of daily massage, first of the calf, then the shin of the leg. The plantar and dorsum of the foot were next briskly rubbed. The joint proper was more gently treated, with the tips of the fingers the outlines of the joint was first followed. Passive motion was then performed with one hand holding the leg above the ankle and the other hand holding the tips of the toe, the foot was rotated in circumference giving the joint physiological movements in all directions. The case had been left under my temporary care, owing to the fact that Dr. O. lived thirty-five miles away. The patient was then about eight miles from me and I could see him at first only every other day, and later only every third day. The treatment had to be intrusted to his sister who acted as nurse. Under this treatment improvement was satisfactory. The wound in the heel which was draining the ankle joint healed. Treatment was, however, relaxed too soon and the young man began to work. The heel which had been entirely healed, broke open again. The young man is now living in the same town that I do. He comes to my office every morning. This is the routine treatment he is receiving: the limb is anointed with a one per cent. solution of menthol in liquid petrolatum. (This ointment is not employed on account of its antiseptic properties. The benefits we expect to derive from it is the lubrication it gives to the skin while rubbing.) First the calf and shin of the leg are rubbed with the palm of the hand, in an up and down motion, the two hands enveloping the leg. The foot is next rubbed, one hand on the plantar surface and the other one on the dorsum. The ankle and the heel are next in order, both are massaged with the palm of the hand. Under this treatment the drainage through the heel has ceased to flow, and the fistula is rapidly healing. The patient is able to walk without a stick or support, only limping very slightly. I am confident that the patient will entirely recover in a few months' time and will have an entirely useful limb.

EPIDEMIC OF TYPHOID FEVER FROM CONTAMINATION OF MISSOURI RIVER WATER.

By O. W. H. Mitchell, M. D., Columbia, Mo.

The town of Parkville, Missouri, is located about twelve miles northwest of Kansas City, on the Missouri river. The town has a population of nearly fifteen hundred inhabitants, and Park College, located there, has an enrollment of about four hundred students. There is a sewerage system in the town with which about one-third of the closets and the sewers



of the college are connected. The water supply is furnished from a plant owned by the school. Water is pumped from the river into a reservoir and from the reservoir into the water mains.

On August 7, 1909, a case of typhoid fever occurred in Parkville. The house where this case was located is on the sewerage system. About this time, for a period of from twenty-four to forty-eight hours, there was no current where the water in-take was located. About four weeks later,

an epidemic of typhoid fever occurred at the college. There were between thirty and forty cases. Boiling of the water was begun immediately. A favorable report, based upon bacteriological examination of the water, having been received by the school authorities early in October, the boiling of the water was discontinued.

About the fifteenth of November, a second outbreak (about fifteen cases) occurred at the college. The last case occurred December first. There has been one death at the college; none in the town and country.

About the first of December this laboratory was asked to make an examination of the water. Samples of tap water were collected by myself from several points at the college and in town, on the seventh of December. These samples were kept iced, and cultures were made in twenty-four hours. Gas was formed in fermentation tubes within sixteen hours, and gave a ratio of H CO_2 2:1. The bacteriological count was 14,500. Upon litmus lactos agar, acid-producing colonies developed, which were found to be colon bacilli. The organisms were motile, produced acid and coagulation of litmus milk, produced gas and acid in litmus lactos agar, and gave a positive indol reaction.

The results of the bacteriological investigation, taken in consideration with the conditions existing at Parkville prior to, and at the time of, the outbreak of the epidemic, shown in accompanying illustrations, can lead only to the conclusion that the epidemic had its origin from a contaminated water supply.

An appropriation has been made by the college whereby the entire system may be disinfected, and the location of the water in-take changed.

In this investigation I was greatly assisted by Dr. J. Underwood, Health Officer at Parkville, President L. M. McAfee, of Park College, and Professor Walter McNab Miller, of this Laboratory, all of whom I wish to thank.

Journal
Missouri State Medical Association.

The Official Organ of the State Association and Affiliated County Societies.
Published Monthly under the supervision of the Publishing Committee.

ADDRESS ALL COMMUNICATIONS TO METROPOLITAN BUILDING, ST. LOUIS, MO.

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E. J. GOODWIN, M. D., Editor.

PUBLICATION COMMITTEE:

Walter B. Dorsett, M. D., Chairman. M. B. Clopton, M. D. M. C. Shelton, M. D.

EDITORIAL

THE HANNIBAL MEETING OF THE ASSOCIATION.

The fifty-third annual meeting of the State Association will convene in Hannibal, May 3 to 5. The program committee is working hard to collect an interesting lot of papers for the scientific program and the outlook at present is extremely favorable for a most successful meeting. The Marion County Medical Society is arranging for the entertainment of the members and will have a delegation meet all trains to conduct members to their hotels and make them welcome. All members who expect to read papers at the meeting, should send the titles at once to the officers of the section in which the paper will be read.

A strong effort is being made to have all committees in the House of Delegates prepare their reports in time to permit the sending of copies to the delegates thirty days before the meeting takes place, so that the delegates may be familiar with the business affairs that will come up for consideration and arrive at a conclusion as to what disposition should be made of the recommendations in these reports. In this way all business matters of the House can be completed on the morning of the first day. On the afternoon of this day a general session will be held, before which will be read such reports as the report of the Committee on Cancer, the Committee on Legal Defense, the Committee on Tuberculosis, the Committee on Medico-Legal Expert Testimony, all of which subjects touch the physician in his daily practice and are of vital interest to every

member. If this program is adhered to, the remaining two days of the meeting can be devoted entirely to the scientific work of the sections.

The St. Louis members are arranging for a trip by boat from St. Louis. We present in another column an announcement of this trip, and urge all members who can take advantage of the conveniences of this special arrangement to communicate at once with the committee in charge.

BOARD OF ADMINISTRATION FOR STATE HOSPITALS.

The inauguration in Illinois, on January 1, 1910, of the Board of Administration to supplant the former system of control of State eleemosynary institutions by local boards of managers—a system that is still in force in Missouri—marks a step that is certainly in the right direction.

We are not of those who believe that whatever is is bad and should, therefore, be changed. For forty years the system under which Missouri is working was faithfully tried in Illinios and, to its credit we may say, it brought about in part the improvement in the care of the State's wards that its creators hoped for. But experience has shown the faults of the plan, as well as its benefits, and pointed the way to a more logical means of attaining the best results in the care of the sick poor of the State.

The Board of Administration is the executive board and supplants the local boards of managers and the State Board of Charities in all administrative and quasi-administrative powers of its service. A Charities Commission succeeds to the visitorial, inspectional, critical and recommendatory duties of the State Board of Charities; local Boards of Visitors have purely visitorial and recommendatory functions and serve as dependencies of the Central Charities Board.

Under such an efficient system of centralized responsibility, many leaks in the finances will be stopped and much of that demoralizing influence, petty institutional graft impossible to prevent under a less strict management, will be prevented by the Illinois plan.

When the merit system in the selection of officers and employees of State charitable institutions of Missouri has been firmly established, we hope to see our State follow the same wise policy adopted in Illinois. Local boards may still be usefully employed; but they should be free to act for the good of the institutions and entirely independent of the incessant demands of local politicians for soft places and of local merchants for a part of the trade. The duties of the local boards will be more directly concerned with the personal welfare of the patients,—visitorial and recommendatory.

Missouri has not been entirely thoughtless of the deficiencies of the

present system, for a bill was introduced in the last legislature by Representatives Muir, of Lewis County, and Brasfield (now deceased), of Putnam County, providing for a bi-partisan board of four members to be appointed by the Governor, with duties following closely the provisions of the Illinois law. The bill passed the House with votes to spare, in spite of vigorous opposition, led by Mr. Crossley, of Johnson County. It did not, however, reach the Senate in time to be taken up by that body, which was necessary before it could become a law. Similar bills have been killed or vetoed in other sessions.

This is a subject that concerns the medical profession and should have serious discussion in county society meetings and at the annual sessions of the Association, to the end that all the influence of the organized profession be directed toward establishing the most improved methods of managing and controlling our State charitable institutions.

ABOLITION OF THE COMMON DRINKING CUP.

The movement for the abolition of the common drinking cup is spreading to all parts of the country. Kansas was the first state to take decisive action by ordering all railroad companies to discontinue the use of the common drinking cup on trains passing through the state, and the action was sustained by the attorney-general.

From the *Bulletin* of the Municipal Commission on Tuberculosis, St. Louis, we learn that the following states and cities have taken action to abolish this cause of disease spread:

"The State Board of Health of Michigan, in October, 1909, forbade their use on railroad trains and in schools.

The State Board of Health of Mississippi took similar action in October, 1909. The rule became effective January 1, 1910.

The State Board of Health of Kansas abolished drinking cups on railroad trains, in stations, and in all schools, September 1, 1909. The attorney-general of Kansas sustained the action of the board.

The New Jersey Board of Health, in August, 1909, condemned the common use of the public drinking cup and recommended that all railroads discontinue furnishing the same.

Commissioner of Health Eugene H. Porter, of New York, Secretary Dixon, of the Pennsylvania Board of Health, and Secretary J. N. Grassick, of the North Dakota Board of Health, have publicly condemned the common drinking cup.

The Board of Health of New Orleans has prohibited the common use of cups in schools.

The South Pasadena, Cal., Board of Health has prohibited the

common use of drinking cups in schools, institutions, and other public places.

The Service Board of Dayton, Ohio, ordered the abolishment of all cups after September 1, 1909, at fountains which are controlled by the municipality.

The School Superintendent of Milton, Pa., has required all pupils to furnish their own cups.

The New York hospitals are furnishing several thousand cups a day to patients in dispensaries.

A number of leading railroads in the country have abolished the public cup and furnish slot machines which sell paraffin cups."

This information is embodied in a recommendation to the Municipal Assembly of St. Louis, making a strong appeal for taking immediate steps to prohibit the use of these cups in the city of St. Louis. An ordinance drawn up by the Commission, providing for this action, was also submitted and its passage earnestly advocated.

The Commission is doing splendid work in every direction for the conservation of the public health and should have the united support of the medical profession.

STATE BOARD OF HEALTH RULES UPHELD.

The Supreme Court has reversed the decision of the Circuit Court of St. Louis in the case of the students of the Barnes Medical College, class of 1908, against the State Board of Health for refusing to examine the class on the ground that the Barnes Medical College was not in good standing because it had not met the requirements of the Board and did not comply with the rules for the minimum equipment in teaching. The Supreme Court remanded the case with instructions to quash the writ of mandamus against the Board and dismiss the petition of the students. The interesting feature of the case is the establishment of the legality of the Board's action in promulgating rules for judging of the reputability of medical colleges, which rules the Supreme Court holds are not only reasonable, but wise and just. Another principle is established by the ruling in this case, namely, that of placing upon the student the responsibility for entering a college without first having satisfied himself that it is reputable.

On another page we print the full text of the court's opinion.

THE ST. LOUIS SURGICAL SOCIETY.

The St. Louis Surgical Society has been a most influential factor in the medical profession of St. Louis and a generous contributor to the financial support of every movement to advance the interests of the

medical affairs of that city. It is well known in the surgical world, not only for the professional attainments of its members, but also for its generous hospitality in entertaining visiting surgeons.

The St. Louis Medical Library Association had its inception in the meetings of this body and its members were the first to contribute funds to start the library and interest the profession in establishing a medical library in St. Louis. Previous to this action the only reference library for physicians was at the Public Library, but it was incomplete and unsatisfactory. During the World's Fair the Society entertained a number of eminent surgeons from foreign countries and was host to the American Surgical Society.

While it has contributed considerable sums annually to the Library Association, the latest evidence of its interest in supporting the library is the donation of $1,000 for the Elisha Hall Gregory Endowment Fund. We understand this action on the part of the Surgical Society has prompted another medical body in St. Louis to consider adding to this fund by contributing a large sum out of its treasury. We hope we shall have the pleasure of announcing this contribution at an early date.

MORE OBJECTIONABLE ADVERTISING.

We have received a letter from the secretary of Adair County Medical Society enclosing a newspaper advertisement of a hospital in Kirksville to which the county society expresses strenuous objection. Here is the advertisement:

H—is for ———'s HOSPITAL,
The sick should know
It's the best place to go,
And the rates are quite low.
———'s HOSPITAL, clean and sanitary,
The rooms large and airy
Your "Family Doctor" can attend,
——— Welcomes all ethical men.

Facts:

Everything in the building planned for safety in surgical cases. Separate sterilizing and anesthetic rooms are provided. Dressings and Instruments are sterilized thoroughly before using. All modern surgical apparatus. The most up-to-date in N. Mo.

This is the second warning Adair County Society gives to the members guilty of indulging in newspaper advertising. The county society desires to warn the guilty members that if these practices are continued, the censors will take action to discipline them.

At the March meeting of the Clay County Medical Society a resolution will be acted upon, "to exclude from membership any physician who advertises in any paper, leaflet or by personal means."

RIVER EXCURSION TO HANNIBAL.

Are you going to the meeting of the State Association? If so, how would you like to make the trip by boat from St. Louis to Hannibal? If a sufficient number of members avail themselves of the opportunity, the side wheel steamer "Cape Girardeau" will be chartered for the exclusive use of members of the Association and their families, the boat remaining at Hannibal during the session and returning immediately afterward. The Eagle Packet Company agrees to furnish meals and berth en route and while at Hannibal; also an orchestra, and guarantees good meals and good service. The boat, which has a capacity of 140, can be chartered for $1500. If 125 people or more make the trip, the charge will be $12.00 per person.

The advantages of such an excursion are many. Leaving St. Louis on the afternoon of May 2nd, the river trip should prove especially delightful at this spring season. While listening to the music, we will have the opportunity of becoming better acquainted with our fellow members. On reaching Hannibal, there will be no uncertainty about accommodations or meals, for we are to live and eat on board. The return trip will be made on the afternoon of May 5th.

This trip should prove attractive to all members who would ordinarily pass through St. Louis en route to Hannibal, and also to others who would prefer to go a little out of their way for the sake of participating in what should prove a thoroughly enjoyable outing.

Think it over and make up your mind to join us. Come yourself and bring your wife and family. Please send name, address and number of reservations desired to Dr. John Green, Jr., 625 Metropolitan Building, St. Louis, or Dr. Clarence Loeb, 208 Humboldt Building, St. Louis. If for any reason the trip is abandoned, you will be notified.

ASSOCIATION BUTTON.

We reproduce a fac simile of the Association button now for sale to members. It is made of rolled gold with a blue back ground and a red cross within a white cross. This button will take the place of badges



hitherto used at annual meetings although probably a small ribbon will be worn. Every member should possess one of these buttons, and we hope there will be a large sale, for it is surely a badge of fellowship that

all should be proud to wear. The price is one dollar. Orders should be sent to the secretary, Dr. A. W. McAlester, Jr., Bryant Bldg., Kansas City, Mo.

AMERICAN MEDICAL DIRECTORY.

The second edition of the American Medical Directory from the press of the Association, 535 Dearborn Ave., Chicago, shows considerable improvement over the first edition. The book is one that every physician who has occasion to consult a medical directory, should have in his library, for the information is obtained directly through Association circles and is compiled with a view of giving the greatest amount of information that will be essential to practising physicians. This edition contains over 10 per cent. of new names and more than 20 per cent. of matter than the previous issue. It also contains two additional items of information concerning physicians, viz.—the professorships held on medical college faculties and the special lines of practice followed.

EDITORIAL NOTES

The Conference of Superintendents and Board of Managers of Missouri State Hospitals, to be held at Kansas City, March 15 and 16, will be a most interesting and important meeting. The program includes papers on every phase of management, control and treatment of the insane, the epileptic and the feeble minded wards of the State. Dr. G. Wilse Robinson, of Kansas City, is president of the Conference. Our limited space precludes the publication of the program, but we hope to present some of the papers read at the Conference in later issues of the Journal.

We regret the rather antagonistic tone assumed (editorially) by the *Bulletin of the A. Ph. A.* (December, 1909), as regards the competency of physicians in judging therapeutic value, dosage, etc., of articles to be included in the U. S. Pharmacopœia. In spite of all assertions to the contrary that may be made by pharmacists, it is, after all, the physician who decides what articles should or should not be included in the U. S. P., certainly not the pharmacist as he only prepares what the physician orders. It seems most desirable that we should do everything in our power to secure the advice and coöperation of leading physicians and medical educators in revising our Pharmacopœia.—*The Pacific Pharmacist.*

Physicians Should Know More About Pharmacy.—With the increase of the practice of dispensing by physicians, it becomes desirable to add to the pharmaceutical knowledge and skill of the medical practitioner. More instruction on pharmacy to the medical student will give the medical profession a broader, as well as a better knowledge of pharmacy, and cause physicians to realize more fully the responsibility which rests upon the shoulders of the dispensing physician. It will cause the physician to have greater respect for the competent pharmacist, and have a tendency to diminish rather than increase the extent of dispensing by physicians.—*Meyer Bros., Druggist.*

Dr. Tinsley Brown, President of the Association, delivered an address on public health questions at Aurora, on December 22nd, when the Lawrence-Stone County Medical Society held an open meeting. The sentiment aroused in this meeting showed that the people are taking a deep interest in public health matters and are ready to coöperate with the profession in every effort for better sanitary and hygienic measures, both in private and public life. One of the results of the meeting was a movement to establish a district hospital at Aurora. The Reverend H. H. Burch introduced a resolution which was unanimously adopted, calling for the appointment of a committee to formulate plans for the hospital. The committee was appointed and consists of the following: From Aurora, Drs. Ament, Fleming, Harding, Madry, Melton, Mider, Stevenson, Townsend and True, Messrs. Henry Scott, Will Elsey, S. H. Minor, C. G. Thompson, G. H. Wittram, N. Logan, Rev. Fergerson, Rev. Prater and Rev. H. H. Burch; from Mt. Vernon, Dr. Shelton, vice-president Lawrence-Stone County Medical Society; from Monett, Dr. Hawkins; Verona, Dr. Loveland; Crane, Dr. Huffman; Galena, Dr. Henson; Marionville, Dr. Andrews, president of the Lawrence-Stone County Medical Society; Pierce City, Dr. Rodman.

Dr. John Stewart, of St. Louis, has been appointed superintendent of the State Sanatorium for Incipient Tuberculosis at Mt. Vernon. Dr. Stewart is a graduate of the Barnes Medical College (1904) and has been practicing in St. Louis since his graduation.

Dr. Stewart is a member of the St. Louis Medical Society and the State Association. He is a capable physician and earnest worker but has had little practical experience in dealing with tuberculosis. The Board of Managers doubtless exhausted their resources in selecting a competent physician who was willing to accept a position that offers little to an ambitious doctor except the opportunity to pursue a certain line of study and research. The Sanatorium at Mt. Vernon is one of Missouri's most important educational institutions in the war against tuberculosis out of which ought to come much knowledge of the best methods of preventing and curing this disease.

Quackery and Felony. In the prosecution of advertising quacks one of the difficulties in the way of securing a conviction is the tendency of a lay jury to look at the action brought as a species of persecution skilfully engineered by the ethical members of the medical profession. This tendency is, of course, encouraged by the quack and used for all it is worth and he assumes the pose of a martyr to professional jealousy. Human nature is so constituted that, while it looks on the commission of a misdemeanor with leniency, it views a felony with unequivocal disfavor. The case recorded in the Pharmacology department of this issue* is a case in point. The individual prosecuted was charged, not with practicing medicine without a license, but with obtaining money under false pretenses. Here there was no opportunity to assume the rôle of injured innocence. The "gold-brick" swindler caught red-handed could as consistently cry "persecution" as could a physician who had taken money for making a fake diagnosis and pretending to "cure" the condition thus "diagnosed." The eminently sensible ruling of the court, in the case here referred to, that physicians should be permitted to testify as to certain conditions as matters of fact rather than merely as matters of opinion, will, if sustained by the higher courts, do much to render the quack's cry of persecution flat, stale and unprofitable. The important point in connection with this case, however, is that under such charges the prisoner becomes but a common felon and on a par with the ordinary porch-climber or sneak-thief. While the layman may experience some difficulty in recognizing the danger of quackery *per se,* he finds no such obstacle in a case of plain robbery. The average man is perfectly willing to play fast and loose with his health, but he objects to any such harsh treatment of his purse. Let the public once realize that quackery and robbery are usually synonymous, and the outcome of legal action instituted against quacks may be safely predicted.—*Jl. Am. Med. Assn.*

PERSONAL AND NEWS NOTES

Dr. Albert S. J. Smith, of Dearborn, Mo., has composed the words for a vocal quartette, entitled "Imperial Missouri," which was set to music by his wife, Mrs. Attie May Smith.

Dr. F. J. Taussig has been appointed chairman of the committee appointed by the American Medical Association to revise the section on obstetrics of the United States Pharmacopeia.

Drs. Whelpley, Behrens and Falk have been appointed delegates of the St. Louis Medical Society to represent the Society at the meet-

*January 29, 1910.

ing of the Convention of Pharmacopeial Revision, which is to meet in Washington next May.

The State Medical Society of Wisconsin has purchased the Wisconsin Medical Journal, and in future this publication will be owned and published by the State Medical Society as the official organ of this body.

The St. Joseph-Buchanan County Medical Society has taken active steps toward establishing a medical library. The plans at present contemplate the assignment of quarters in the Public Library at St. Joseph for the use of the physicians.

Dr. Otto A. Wall, of St. Louis, and Drs. R. T. Sloan and Robert Block, of Kansas City, have been appointed delegates from the Missouri State Medical Association to the Convention for the Revision of the Pharmacopeia at Washington next May.

Officers elect of the Alumni Association of the Medical Department of St. Louis University, for 1910: President, Dr. Rollin H. Barnes; vice-presidents, Dr. Frederick W. Bailey, Dr. Percy H. Swahlen; recording secretary, Dr. Alfred Bode; corresponding secretary, Dr. Guy L. Qualls; treasurer, Dr. W. D. Aufderheide.

The eleventh annual dinner of the Medical Society of the City Hospital Alumni (St. Louis) was the best attended in its history. Over one hundred and twenty members and guests gathered at the Marquette Hotel on Thursday, January 6th.

Dr. Frank Hinchey made his inaugural address, being introduced by Dr. Walter Baumgarten, the retiring president. Dr. Geo. Homan read a history of the Society. The other speakers were Dr. Francis Reder and Dr. Amand Ravold.

The guests were Mr. J. H. Gundlach, president of the City Council; Councilman Chas. Espenschied, Mr. E. C. Rombauer, speaker of the House of Delegates, and Dr. J. A. Walker.

The pending bills for the management of the municipal hospitals was the principal theme for discussion.

The Society of Medical History of Chicago has been recently organized, with Dr. Isaac N. Danforth as president, Dr. N. S. Davis as vice-president, and Dr. George H. Weaver as secretary.

The society has been formed for the purpose of systematically collecting and permanently preserving in an accessible manner any matters which are or will become of interest in connection with the medical his-

tory of institutions, organizations and individuals, especially of Chicago and the surrounding states.

The society asks the active support and help of the profession in its efforts to secure the desired materials. It makes a special appeal to those outside of Chicago for anything antedating the Chicago fire. It will gladly coöperate with other organizations operating in similar lines. Everything collected by the society will, as soon as possible, be so arranged as to be accessible to any person doing research work in medical history. Gifts to the society will be duly credited to the donors.

All communications should be sent to Dr. George H. Weaver, secretary, 1743 West Harrison street, Chicago.

CORRESPONDENCE

February 7, 1910.

To the Editor Journal, Missouri State Medical Association:

My attention has been called to an article in a recent publication of your paper in reference to my reported position upon the "hookworm." The article published in your paper is based upon a misunderstanding of the facts. I have never taken any position publicly or privately in reference to the existence of the hookworm, and the newspaper story which I assume was the basis of this article, was based upon a remark jokingly made by myself to the newspaper correspondents at Jefferson City. I received a letter asking me for the names of the persons that I had appointed as delegates to the Hookworm Convention at Atlanta, Ga. I happened to state to the newspaper correspondents when they called for news, that I had not been requested to appoint any delegates to this convention, and if I had been, I would be at a loss to know whom to appoint, unless the Jefferson City correspondents would accept the position themselves. I also added that I assumed that I had not been requested to make the appointments because, so far as I knew, Missouri was not interested in the question. The newspaper men undertook to write up a facetious article based on this incident and either failed to make it facetious, or else your editor was lacking in sufficient sense of humor to understand their purpose. I request that you publish this statement in order that my position in this matter may not be misunderstood by the physicians of the State.

Very truly yours,

HERBERT S. HADLEY,
GOVERNOR.

[But Missouri was not represented.—ED.]

To the Secretary of each State and County Medical Society, and Other Interested Members:

At the last meeting of the American Medical Association at Atlantic City the following report of Committee on Miscellaneous Business was adopted: "The committee recommends that the President of this Asso-

ciation appoint a committee of five members to inquire into the desirability and practicability of the establishing under the auspices of the American Medical Association of a fund for the assistance of physicians disabled by sickness, and for a sanatorium for the treatment of such members of the Association, as may be afflicted with tuberculosis or similar diseases; such committee to report to the House of Delegates at the next annual meeting of the Association."

As a basis for wise action the Committee urges that the officers of State and County Medical Societies, and others interested in the subject, should at the earliest possible date, forward to the Secretary of the Committee, Dr. A. C. Magruder, Colorado Springs, Colorado, answers to the following queries, with some account of any special cases that seem to illustrate the need for provision for disabled members of our profession.

1. Is there any provision by your State Medical Society, or local society, for the care of destitute and disabled physicians and those dependent upon them? If so, how is such care provided?

2. What number of instances of special need for such assistance (or Sanatorium treatment) have arisen in your locality in the last five years and what number of your members need such assistance now?

3. About how many members of your County Medical Society are at present afflicted with tuberculosis or similar diseases; or have, within the last five years died, or withdrawn from professional work on account of such disease?

It is earnestly requested that this matter be brought before each County and State Society at its next regular meeting; and that the desired information be furnished our Committee at the earliest possible date.

Fraternally yours,

Edward Jackson, Denver, Colorado.
Jefferson R. Kean, Washington, D. C.
A. T. Bristow, Brooklyn, N. Y.
H. B. Ellis, Los Angeles, California.
A. C. Magruder, Secretary, 305 N. Tejon Street, Colorado Springs, Colorado.

Editor Journal Missouri State Medical Association:

One would suppose after seeing so much incompetency and mismanagement in the handling of our eleemosynary institutions, that when the State opened a new branch of government those in charge of the new branch would profit by the mistakes of their brothers in charge of the older kindred divisions. One would think little excuse now existed for making a broader and more extended effort to crown medicine with success and reflect honor on the State through the further substitution of a politico-scientific mongrelcy for what ought to be the most altruistic science.

There is such a thing in law after proving the crime, as *failure to join the defendant to the crime.* The medical profession of the State pleads *"not guilty"* to the charge and denies all responsibility for the mismanagement of the institutions. This is to apply also with respect to the charge that *will* be made against our profession for any incompetency and inefficiency of appointees to collect the vital statistics.

When called to face the charge of mismanaging the public institutions entrusted to our care, the medical profession must with humility admit

the disgrace but deny the responsibility. That these institutions have been entrusted to the care of someone who was registered as a physician is not sufficient grounds on which to establish a charge that the *profession* is guilty. In none of the instances was the profession consulted and in none of the instances could the profession have prevented, by reasonable means, the appointments that were made. Too often these appointments are controlled or determined by some one or more old political bums, who, though they may also be doctors for revenue only, in the kaleidoscope of human events, show up on a board of managers of an institution. It is easy to see, with the appointive power in such hands, how the State may remain in the dark as to how many ribs of a ward can be broken without disturbing the repose of a superintendent, or why butterine and water are not just the things to fatten those for whose support only fifty dollars a month has been considered sufficient; and vital statistics, collected by those who have ever taken "leg bail" from the presence of a court, will, of course, be properly (?) recorded, when to do otherwise would arouse unpleasant reflections on two lives that went out, and the loss to business while an irate father's anger cooled.

The medical profession of the 28th District must not be adjudged guilty of past nor of future mismanagement of the State institutions while I remain its Councilor, except over my protest, until the profession has been consulted with reference to the various appointments. I wonder how long partisan politics is going to dominate the selection of these appointments ere it confesses its ignominious failure; and how long we, a blinded Sampson, will continue to make sport, before we disregard our own hazard and bring the reign of folly to a close!

It has long been a custom in civil government to entrust the enforcement of a measure to those who were interested in its introduction and in its enactment into law. What would the people, irrespective of party, say if President Taft had placed three-fifths of his appointments in the hands of those who were inimical to the things for which he stood? Yet that is the policy of the State Board of Health, at least as applied to this (Lawrence) County, in putting the Vital Statistics law in operation. With the greatest humanitarian institution of the State located in our midst, rearing its ugly record to our discredit, we feel that our local Society ought to have been spared further degradation. Though innocent of all deeds of omission or commission, we have borne the contumely and disgrace in silence for the good of the institution; but that point at which forbearance ceases to be a virtue was passed when the State Board of Health deliberately appointed the cracked and the corrupt to carry out a law that would never have been heard of but for those of high ideals in medicine organized for efficient service. Had the remaining two-fifths of the appointments to collect the vital statistics been properly distributed, no objections could have been raised to these. They are physicians that would bear worthily any honor that the State is likely to confer; nor, are the three-fifths *all* disreputable and without honor; but why, if not at the dictation of some old political boss, name these for the enforcement of so important a law when better men and known friends of the law are to be had in the same locality? We conclude that the two-fifths were appointed to their positions through accident or necessity rather than choice.

In these days of high-priced living and exorbitant and unfair legal demands upon members of the profession, fawning and flattery, base servitude on the mandates of the master, and the sacrifice of ethics and truth itself to win and keep the favor of some two legged old hog that

happens to be the pass—or patronage—dispenser, have reasons (poor to be sure) for their existence; but why will the State Board of Health make a breach on the organized profession, and invite in those who are, to say the least, not its friends, to guard its welfare and its sacred honor? If the medical profession ever hopes to attain to the honored position its purposes inspire, it must demand of its members that they each—every man a brick—*merit respect;* nor is this all for that which is wrong or degrading must be condemned and consequences allowed to take care of themselves. Honors, however insignificant, must not be taken from those who have labored long and faithfully to uphold the higher ideals, to be bestowed recklessly on others who have labored just as long to tear these ideals down. Let us find the line and hew to it or condemn the whole scheme as a political sham. Our State Board of Health, if they cannot advance with our rising tide should not recede; if they cannot elevate, they should not lend assistance to those who would tear our ideals down.

A. H. Madry, M. D.,
Councilor, 28th District.

COUNTY SOCIETY NOTES

ADAIR COUNTY MEDICAL SOCIETY.

The regular meeting of the Adair County Medical Society occurred on Thursday, February 3, 1910, at the office of Dr. E. C. Callison, Kirksville, with the following members present: Drs. Quinn, Gashwiler, Derfler, Callison, Butler, Conner, Grim, Chandler and Bert Parrish.

A communication from the secretary of the State Board of Health was read, concerning W. E. Munn, of Pure Air, practicing medicine without a license. A motion was made and unanimously adopted by the society to urge the prosecuting attorney of Adair County to act upon this matter as soon as possible.

A communication to Dr. J. S. Gashwiler, of Novinger, concerning the vital statistics law was read and discussed.

The scientific portion of the program was then taken up. Dr. J. S. Gashwiler, of Novinger, read his paper on "A Few Suggestions on the Medical Treatment of Minor Surgical Injuries." This was a very fine contribution and demonstrated careful preparation and an intimate knowledge of this subject. The paper was freely discussed by all present and a number of valuable suggestions were brought out.

The application of Dr. H. J. Rankin, of Kirksville, for membership in the society was read. The board of censors reported favorably and by suspension of rules, Dr. Rankin was unanimously elected a member.

Adjourned to meet the first Thursday in February, 1910, at 7 p. m., with Dr. T. R. Butler, of Kirksville.—Bert Parrish, M. D., Secretary.

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY.

The Cape Girardeau County Medical Society held its regular monthly meeting February 14th in Dr. Howard's office, with the following mem-

bers present: Drs. Cunningham, Hope, Howard, Moore, Schulz, Wichterich and Wilson.

As a certain physician has been claiming he was a member of the State Association and not of the county society, the secretary presented communications showing the statement of this physician to be false. By unanimous vote, the society endorsed the action of the secretary.

The standing committees made their reports which were approved.

Program for the evening: "Puerperal Septicæmia," by Dr. G. B. Schulz. As usual, for the doctor, he covered the subject and the paper created a good discussion. "Migraine," by Dr. Wilson. The paper was well received and numerous cases from practice were reported by physicians present. From these reports it was found that true migraine is not very common.—E. H. G. Wilson, M. D., Secretary.

CASS COUNTY MEDICAL SOCIETY.

The Cass County Medical Society met in Harrisonville, Mo., on February 3rd. The attendance was not large but the meeting was an interesting one. Dr. J. S. Triplett reported an interesting case of nephritis, with microscopical specimens of hyaline casts which the members took great interest in examining.

Dr. R. E. Chaffin read a paper on "Sanitary Prophylaxis." This was a very interesting and profitable paper along the lines of public sanitation and prophylaxis. It was freely discussed by Drs. Ramey, Overholser, Triplett and Crawford.

The Post-Graduate study was next taken up, and consisted of a quiz on "Anatomy of the Thoracic Wall and Diaphram," by Dr. J. S. Triplett. This proved to be a very interesting feature of the program, and all present were of the unanimous opinion that it was for the best interests of the medical profession of our county.

The vital statistics law was discussed and the society urges upon all of the doctors in the county the importance of reporting all deaths and births to their local register.—H. S. Crawford, M. D., Secretary.

CHARITON COUNTY MEDICAL SOCIETY.

The society convened at 7:30 p. m. February 10, 1910. In the office of Dr. G. W. Hawkins. Those present were J. D. Brummall, Otis T. Morey, C. A. Jennings, G. W. Hawkins, W. O. Hawkinson, J. D. McAdam, and President R. D. Epperly in the chair.

The regular business of the society transacted with the regular scientific program. Arrangements were perfected for our public meeting on March the tenth next, when addresses will be delivered by Dr. Tinsley Brown and Dr. Frank J. Lutz. The president's address of last year, Dr. G. W. Hawkins, which had been laid over was called for and read at this meeting. And on motion of the society the secretary was instructed to send the paper to the Journal with the request that the same be published; also our society report.—G. W. Hawkins, M. D., Reporter.

CLAY COUNTY MEDICAL SOCIETY.

The regular monthly meeting of the Clay County Medical Society was held at Excelsior Springs. Dr. Sevier and Dr. Matthews were the

only physicians of Liberty who were able to be present. The program consisted of a joint paper, prepared by Dr. Y. D. Craven and Dr. J. J. Gaines.

A resolution, to be voted upon at the March meeting, was presented. It is a recommendation to exclude from the membership of the society any physician who advertises in any paper, leaflet, or by personal means.

The next meeting will be held in Liberty the last Monday in February.

COLE COUNTY MEDICAL SOCIETY.

Cole County Medical Society held its regular monthly meeting at Jefferson City February 10th, 1910, with the following members present: Drs. C. P. Hough, J. L. Thorpe, I. N. Enloe, H. G. Dallas, M. R. Aldridridge and J. S. Summers. Dr. Miller, of Sedalia, was a visitor.

After the regular routine of business was transacted the application for membership of Dr. Ernst L. Haffner, of Hermann, was read and he was unanimously elected a member of our society.

Dr. I. N. Enloe demonstrated a special splint of his own construction. The subject of fractures was taken up and an interesting discussion followed.

Dr. H. G. Dallas reported an interesting case of prepatellar bursitis.

The society meets regularly on the second Thursday night of each month.—J. S. Summers, M. D., Secretary.

GREENE COUNTY MEDICAL SOCIETY.

The Greene County Medical Society met in regular session Friday, February 11th. The president has just recovered from a severe attack of pneumonia, which prevented him from assuming the duties of his office until the last regular meeting. Vice-president Dr. D. U. Sherman, however, appointed the committee on Scientific Communication and Program at the regular meeting in January. Dr. Wm. Smith, Dr. B. F. Fortner and Dr. C. A. Moore comprise this committee and a program of unusual interest for the present year is promised. The program will be published and ready for distribution by the next regular meeting, February 25.

During the past year the society through its committee on water supply has been instrumental in securing for the city a new filtration plant which will provide an unlimited supply of pure, clear water. This will undoubtedly prove a great benefit to the city. In recognition of the faithful and untiring efforts of the committee in inducing the Water Company to install the new filtration plant, the president honored each member by reappointment on the same committee for the present year. The committee is composed of Dr. B. F. Fortner, Dr. C. E. Fulton, Dr. D. B. Farnsworth, Dr. F. B. Fuson and Dr. C. E. Woody. Other committees appointed were: Public Health and Legislation, Dr. W. A. Camp, Dr. G. W. Barnes and Dr. J. P. Ralston. Library Committee, Dr. S. W. Tickle, Dr. T. A. Coffelt and Dr. H. S. Hill.

Dr. J. P. Furgeson of the Frisco Hospital, was elected to membership. Dr. G. B. Dorrell real a carefully prepared paper on "Diseases of the Stomach." At the next regular meeting, February 25th, Dr. S. W. Tickle will read a paper entitled "Business Hints."

At the regular meeting in December, 1909, the following officers for 1910 were elected: President, Dr. Thos. Doolin, Ash Grove; vice-

president, Dr. D. U. Sherman, Springfield; secretary, Dr. Thos. O. Klingner, Springfield; treasurer, Dr. D. B. Farnsworth, Springfield; censor, Dr. W. P. Paterson, Springfield.—Thos. O. Klingner, M. D., Secretary.

HENRY COUNTY MEDICAL SOCIETY.

The Henry County Medical Society met in regular session in the county court room on Wednesday, December 15, 1909. The members peresent were: Drs. Gibbins, Peeler, Shanklin, Berry, Bradley, Barr, Haire, McNees, Poague and Jennings.

Dr. Bradley, of Windsor, read a paper on "Pneumonia and Its Treatment," which was well prepared and thoroughly discussed by all members present.

Dr. A. Jackson McNees read a paper on "The Hookworm Disease." This disease and its treatment was discussed at some length, as Dr. Haire had been south and had investigated the malady to some extent.

The following officers were elected for the ensuing year: President, Dr. Edwin C. Peeler, Coal; vice-president, Dr. William P. Bradley, Windsor; delegate, Dr. A. Jackson McNees, Clinton; censors, Drs. Miller and Berry, of Montrose; secretary and treasurer, Dr. Samuel A. Poague.

HOLT COUNTY MEDICAL SOCIETY.

The Holt County Medical Society held its annual meeting in the office of Dr. Proud, at Oregon, on January 21. Those present were: Drs. Kaltenbach and Davis, from Craig; Quigley, E. M. Miller and John Tracey, from Mound City; Hogan, from Forbes; Hogan, from Bigelow; Woods, Thatcher, Klopp, Proud and Evans, of this city. Two new members were voted into the society. Dr. Quigley and Dr. Proud presented a report of interesting cases that were discussed by all present.

The annual election resulted as follows: President, Dr. W. S. Wood, of Oregon; vice-president, Dr. F. E. Hogan, Bigelow; treasurer, Dr. C. L. Evans, Oregon; secretary, Dr. J. F. Chandler, Forest City.

Dr. Ernest Kaltenbach announced that he had come to bid the society farewell, owing to the fact that he had made arrangements to go into other business in a distant state. He thanked his professional brethren for past courteous treatment and friendship and assured them that none but the kindliest feelings were in his heart for all the members and wished them a prosperous future. It was a case of the oldest brother of the family going away, for it was owing to Dr. Kaltenbach's efforts that the society was organized, and the members hated to give him up, but as he had chosen another field, he was assured by all that they parted with regrets and he carried with him the love and respect of all the members of the organization.

The next meeting will be held in Mound City, the first Thursday in April. It will be a public meeting—one that everybody will be invited to attend, as addresses will be made by some of the leading educators in the county, as well as members of the society. Drs. Quigley and Miller were appointed a committee to arrange a program.—J. F. Chandler, M. D., Secretary.

PETTIS COUNTY MEDICAL SOCIETY.

At the meeting of December 20, 1909, the following officers were elected: President, F. R. Morley; vice-president, C. B. Trader; secretary, C. A. McNeil; treasurer, Guy Titsworth; member of censor committee, S. G. Kelley.

After the election of officers, a paper entitled "Mouth Breathing: Its Causes and Effects," was read by Dr. Guy Titsworth and discussed by Dr. S. G. Kelley.

On invitation, the Pettis County Dental Society met with us and gave some very interesting talks on the subject from the dental viewpoint.

The society is forming classes for work on the cadaver. Arrangements are being made for procuring anatomical material from the State Anatomical Board.

At the meeting of January 17, 1910, Dr. D. P. Dyer was elected delegate to meeting of the State Association, with Dr. Guy Titsworth, alternate.—CHAS. A. MCNEIL, M. D., Secretary.

The Pettis County Medical Society met January 18 with a good attendance.

Dr. Albers was to have read a paper on "Nephritis," but could not be present at the meeting. Nevertheless the subject was taken up and fully discussed.

Dr. D. P. Dyer was elected as a delegate to attend the State Medical Association, which meets in May at Hannibal.

After all routine business matters had been disposed of the society adjourned.

PLATTE COUNTY MEDICAL SOCIETY.

At the December meeting of the Platte County Medical Society, the following officers were elected to serve for the coming year: President, Dr. G. C. Coffey, Hampton; vice-president, Dr. J. W. Shultz, Weston; treasurer, Dr. J. J. Carter, Weston; secretary, Dr. E. R. Hull, Camden Point; delegate to State Association meeting, Dr. J. J. Carter; district councilor, E. H. Miller, Liberty.

The meetings of the society are held on the first Wednesday of each month.

MEETING OF JANUARY 5TH, 1910.

The society met on January 5th at Platte City. Those present were: Dr. G. C. Coffey, Dr. Alva Naylor, Dr. H. M. Clark, Dr. S. Redman, Dr. E. R. Hull.

Papers were read by Dr. Spence Redman and Dr. E. R. Hull, followed by able discussions by others present.

The society will meet the first Wednesday in each month without fail and will have a good program for each meeting.

MEETING OF FEBRUARY 2D, AT WESTON.

The papers on the program for this meeting were as follows: "The Typhoid Epidemic at Parkville," by Dr. C. E. Benham, Parkville. Discussion opened by Dr. J. Underwood, Parkville.

"Gastric and Duodenal Ulcers," by Dr. C. H. Chastain, Weston. Discussion opened by Dr. Alva Naylor, Platte City.

"My Experience With LaGrippe," by Dr. J. W. Shultz, Weston. Discussion opened by Dr. J. B. Willis, Farley.

All physicians are cordially invited to attend. Come, meet with us; you are welcome.—E. R. Hull, M. D., Secretary.

STODDARD COUNTY MEDICAL SOCIETY.

The Stoddard County Medical Society met in regular quarterly session at Dexter, the first Wednesday in January, 1910.

The officers for the current year are: Dr. G. W. Vernon, Dexter, president; Dr. J. A. Tiller, Bloomfield, vice-president; Dr. John Ashley, Bloomfield, secretary; Dr. L. Burris, Puxico, treasurer; Dr. T. C. Allen, Bernie, reporter; Dr. H. LaRue, Dexter, delegate; Dr. John Ashley, Bloomfield, and Dr. Robert Ford, Leora, censors.

The program for the year was announced. The April meeting, which will be a public one, will be at Bloomfield, the July meeting at Bernie and the October meeting at Puxico.

Several reported cases of diphtheria were discussed. Rheumatism was discussed and an effort was made to separate and differentiate the many conditions so generally and erroneously grouped as rheumatism.—T. C. Allen, M. D., Reporter.

ST. JOSEPH-BUCHANAN COUNTY MEDICAL SOCIETY.

The regular business session was held February 3rd. Dr. McGlothlan, Chairman of the Library Committee, gave a detailed report of the committee's conference with the library board. He urged the acceptance of the proposition for placing a medical department in our public library. After some discussion pro and con the motion to accept was carried.

Dr. Lee offered an amendment to the by-laws to establish a library committee which shall have control of all matters pertaining to the medical library. The members of the committee to be appointed for one, two and three years respectively.

Dr. A. L. Gray reported that a very good incubator for the "Sheltering Arms" could be purchased for sixty-five dollars ($65.00), but no further action was taken in the matter at this time.

A communication was read from the secretary of the Andrew County Medical Society asking that we appoint a committee to confer with them in regard to affiliating with our Society, and Dr. Jefferies, who was present, addressed the Society in regard to uniting the two bodies. Dr. Elam also spoke in favor of the proposition. Upon motion the chair appointed Dr. A. L. Gray, Dr. John Sampson, and Dr. J. B. Reynolds a committee to confer with the Andrew County committee.

The application of Dr. H. P. Mills of St. Joseph, was read and referred to the board of censors.

Dr. E. S. Ballard presented an able paper on "Medical Examination and Inspection of School Children." Dr. W. T. Elam complimented the paper and suggested that it be read at a public meeting. This was offered in the form of a motion and carried.

Professor Whiteford, Superintendent of the Public Schools, was called upon and expressed himself in favor of a more practical system of examination of children as outlined in Dr. Ballard's paper, and cited

several cases in point. He was of the opinion that the school board was willing to do all in its power to carry out the suggestions of the medical profession along this line.

Dr. Morton suggested the appointing of a committee to confer with the school board at an early date. Dr. Vandivert called attention to the lack of care in the admission of school children, many of whom were too young and their physical condition would not warrant close study and confinement.

Dr. Gleaves thought this an opportune time to take action and urged the appointment of a committee. Dr. Bansbach offered as a motion the appointment of a committee to confer with the school board regarding a more rigid inspection of school children. Seconded and carried. The chair appointed Dr. Bansbach, Dr. Bell and Dr. Elam.—CHAS. WOOD FASSETT, M. D., Secretary.

STATE BOARD AND BARNES COLLEGE.

Below we print the full text of the decision of the Supreme Court in the case of the Barnes Medical College, class of 1908, against the State Board of Health for mandamus suit to compel the Board to examine the students for license to practice medicine in Missouri.

IN THE SUPREME COURT OF MISSOURI.

In Banc. October Term, 1909.

State of Missouri ex rel. James Wesley Abbott, et al.,
Respondents,
vs.
J. A. B. Adcock, A. H. Hamel, Ira W. Upshaw, W. S. Thompson, R. H. Goodier, J. T Thatcher, Frank J. Lutz,
Appellants.
(No. 15,325.)

This was a proceeding in mandamus, instituted in the Circuit Court of the City of St. Louis, at the June term thereof, 1908, by relators against respondents and appellants to compel them to examine them, touching their qualifications and fitness to practice medicine and surgery in the State of Missouri .

An alternative writ was issued and duly served upon respondents, who, in due time, filed their return thereto.

A trial was had, which resulted in findings for relators, and a judgment making the alternative writ of mandamus theretofore issued permanent, etc.

After taking proper steps in that direction, respondents duly appealed the cause to this court.

OPINION.

I.

Counsel for appellants insists that the judgment of the trial court is erroneous, for the reason that relators furnished no evidence to the Board of Health tending to show that Barnes University was a reputable medical college at the time they graduated therefrom, as required by section 3 of an Act approved April 4th, 1907 (Laws, 1907, p. 359). Said section in so far as it is material to the propositions involved in this case reads as follows:

"All persons desiring to practice medicine or surgery, in this state, or to treat the sick or afflicted, as provided in section 1 of this act, shall appear before the State Board of Health at such time and place as the Board may direct, and shall there be examined as to their fitness to engage in such practice. All per-

sons appearing for examination shall make application, in writing, to the secretary of said board thirty days before the meeting. They shall furnish satisfactory evidence of their preliminary qualifications, to-wit: A certificate of graduation from an accredited high school or state normal school, college, university or academy, a certificate from the county school commissioner, certifying that they have satisfactorily passed an examination equivalent to a grade from an accredited high school, or state normal school, college, university or academy. They shall also furnish evidence of having received diploma from some reputable medical college of four years' requirements at the time of graduation." By reading that section of the act it will be seen that it requires three things of each applicant who desires to be examined, touching his qualifications to practice medicine and surgery in this state, namely: first, that he shall make application in writing to the secretary of the board thirty days before the meeting thereof; second, that he furnish to the board satisfactory evidence of his scholastic qualifications; as therein provided for; and, third, that he shall also furnish to the board satisfactory evidence of having received a diploma from some reputable medical college of four years' requirements at the time of his graduation. While the act mentioned does not undertake to state what medical colleges are or what are not reputable within the meaning thereof; but by clear implication it leaves that question for the determination of the Board of Health. This is made manifest by the act requiring the proof of reputableness to be furnished to the board when the applicant presents himself for examination, and by withholding from the board the authority to issue the license until such *satisfactory* evidence is furnished.

There is no pretense in this case that relators or any of them furnished or offered to furnish any evidence whatever tending to show that the Barnes University, the one from which they had graduated and from which they held their diplomas, was a reputable medical college within the meaning of that act.

In our opinion the language of this act is susceptible of no other construction than it placed the burden upon the relators, when they presented themselves for examination before the board, to prove to its satisfaction by satisfactory evidence the reputableness of Barnes University, and especially the medical department thereof.

In the consideration of a similar statute to ours, the Supreme Court of Wisconsin, in the case of State ex rel. vs. Crittenden, 112 Wis., l. c. 584, used this language:

"The learned circuit court erred in holding, as it seems to have done, that every time a person presents himself before the board as a candidate for a state license to practice dentistry, tenders his dollar, presents his diploma, and makes proof of the statutory requisites for the granting of his application, other than that of the reputability of the school graduating him, it is the duty of the board to make an original investigation of and determination as to that subject by direct evidence of the character of the school at the time of the candidate's graduation, regardless of whether any evidence on the question is tendered by him or any request is made for such investigation.

"The burden in such case is on the candidate to demonstrate the reputability of his *alma mater*, not on the board to establish or disprove it."

"If relator had accepted the burden and offered proof to show that his *alma mater* was reputable, doubtless the board would have received and considered it in connection with all other information in its possession.

"Where the facts are so easily ascertainable as they were in this case * * * assuming, as we must, that the board would be actuated * * * by the single desire to deal justly * * * lapse of time after one investigation sufficient to allow a new class of graduates to come from the school would secure a reinvestigation if it was requested, accompanied by a reasonable showing of a material change in regard to the matters in which it was found deficent upon the previous investigation."

The Wisconsin statute simply left the reputableness of the applicants' *alma mater* to the examining board, and did not, as does this act, expressly require the applicant for a license to furnish satisfactory evidence thereof to the Board of Health.

See Laws of Wisconsin, 1901, Chap. 306, p. 418.

And in reference to a similar question, the Supreme Court of Ohio said:

"Nor do we find any provision which makes it the duty of the board to determine in advance of an application for a certificate to practice medicine whether a person holds a diploma from a medical institution of the proper standing. It is only when a diploma is presented upon such application that the action of the board can be invoked."

State ex rel Med. Col. vs. Coleman, 64 Ohio, l. c. 387.

The Ohio Statute, like the one in Wisconsin, merely submitted the question of reputableness to the board, without requiring the candidate for examination to furnish any evidence. That fact adds force to those rulings when we apply them to the case at bar, for the reason that our statute, in express terms, places the burden of satisfying the Board of Health of the reputableness of the school of which he is a graduate.

If that was all that there is in this case, then we could properly reverse the judgment, remand the cause, quash the alternative writ of mandamus and direct the circuit court to dismiss the suit; but that is not all that is presented by the record, and presented by counsel for determination.

"If we correctly understand the position of counsel for relators, they do not controvert the soundness of the conclusions reached in the previous paragraphs, but contend that, "Under the laws of this State the State Board of Health has no authority to adopt and promulgate fixed rules and regulations as the standard by which the various medical colleges of this State will be adjudged reputable or non-reputable within the meaning of the statute relating to the practice of medicine and surgery. The word 'reputable' as applied to medical colleges means reputation and must be proven in the same way."

The following authorities are cited in support of that contention:

State ex rel. vs. Lutz, 136 Mol, c. 639;
Illinois State Board vs. People ex rel., 123 Ill. 227;
State ex rel. vs. Crittenden, 112 His. l. c. 584;
People ex rel. vs. Ill. State Board, 110. 180.

In our opinion counsel for relators misconceive the meaning and object of the rules and regulations adopted by the Board of Health fixing the standards by which various medical colleges would be adjudged reputable within the meaning of the act under consideration. That rule simply provides that all medical colleges, wherever located (and not simply those situate in this State), which should on or before October 1st, 1907, conform to the standards specified in the schedule of minimum requirements, adopted by the Board on July 11th, 1907, "should be rated and classified as accredited and reputable, and whose students, after being graduated therefrom, should be admitted to the examination of the State Board of Health for licenses to practice medicine and surgery in the State of Missouri," without being required to furnish other proofs of reputableness, and thereby save each of them the time, cost and expense of furnishing the proofs required of them by said act. In other words, the Board, by said rules, undertook to require all medical colleges to adopt such standards as would establish and prove their reputableness in all cases, and thereby remove those burdens from each student who applied for a license, as provided by said act. But said rules of the Board do not provide that no graduate from any medical college which had not conformed to those requirements should not be examined, touching his qualifications to practice said professions.

This construction of that rule seemed to have been adopted subsequent to the origin of this controversy, and not prior thereto. Evidently the framers thereof entertained no such idea, for there is no such intention expressed in the rule itself. Neither the rule nor the Board is responsible for his erroneous construction.

In our opinion, since the act left it to the Board to pass upon the reputableness of all medical colleges, whose graduates applied to it for examination, and to determine the character of the evidence by which said fact was to be established, said rules were not only reasonable and just but were also wise and proper. All medical colleges and their students were thereby notified in advance as to what would satisfy the Board as to the reputableness of each college. The diploma alone from all colleges which had adopted those standards would entitle the holder thereof to take the examination without further ado. Otherwise many students might innocently be induced to attend colleges which were not, in fact, reputable, and consequently said students would thereby be prevented from establishing their reputableness. In all such cases a great hardship would be visited upon all such graduates, but under these rules of the Board no injustice could be done to any college or graduate thereof.

And beyond that, the adoption of said standards by the Board, and if the colleges will only conform thereto, the direct tendency thereof would be to uplift and better medical instruction, place her institutions of learning upon a higher plane, and reduce the practice of medicine and surgery to a more perfect science, all of which would result in great good to suffering humanity.

But suppose for argument's sake, we are in error in our views before expressed regarding the meaning and object of said rules of the board establishing said standards, and that it was the intention of the board to thereby notify, in advance, all persons who might present themselves for examination for

licenses to practice medicine and surgery that it would examine no one except those who presented a diploma from some one of the medical colleges which had adopted said standards, still that would no more excuse the applicant for examination from tendering to the Board such evidence as he might have, tending to prove that his *alma mater* was a reputable school within the meaning of said act than would the adoption of a rule by a judge upon the bench, promulgated a year in advance, to the effect that on and after a certain date he would try no case except where the plaintiff held a certificate from a minister of the gospel stating that he belonged to a church which believes in and teaches the Christian religion, would excuse the plaintiff from offering whatever evidence he might have tending to prove his case, even though he held no such certificate. Both, such rules of the board and of the court, would be illegal and void, and would constitute no legal bar to the applicant's right to stand the examination for his license, nor to the plaintiff's right to have his case tried according to law. Nor could the adoption of such a rule of the board or by court be construed to mean that the board in the one case or the court in the other, had thereby refused and determined to examine a particular person for a license to practice medicine, or to try a particular case filed in said court. Such a board or such a court might change its mind before the date fixed arrived, and before either was called upon to act in a concrete case. As long as a man or a body of men fill any official position, the law presumes he or they will perform their duties whenever any matter is legally presented to them for action, notwithstanding general declarations previously made to the contrary. This is true for the obvious reason that no officer can legally act or illegally decline to act until a matter is legally presented to him, calling for his official action in the premises.

It is only where some rule, ordinance, statute or other rule of conduct is relied upon in a particular case conferring or withholding some legal right can the courts or litigants question their validity. They may be unconstitutional, null and void, or invalid for any other reason, still that fact would be no excuse for a person's refusal or declination to perform some duty imposed upon it or him by some valid law. This was expressly held in the case of State ex rel. vs. Taylor, et al., decided by this court *in banc*, at its last sitting, not yet reported.

There the constitutionality of an act was questioned because one section thereof provided, that before the remonstrators against the organization of drainage districts would be permitted to contest its validity they must first give bond for costs, etc.

The court there held that the unconstitutionality of said statute was no excuse for said defendant's declination to appear and defend against said proceedings. The same is true in the case at bar, for the reason that if the rules of the Board establishing the standards for medical colleges are absolutely void, still that fact would be no excuse for a graduate therefrom applying for examination for a license to practice medicine, to refuse to furnish satisfactory proof of the fact that his *almo mater* was a reputable school, as he is required to do by said act of 1907. So, it must follow that it is wholly immaterial as to what was the general intention of the board in that regard so long as these particular relators omitted to furnish or offer to furnish any such evidence, and so long as the board had not refused to act in their particular case. Until that was done there was no just cause for saying the Board had declined to perform its official duties, as was shown by the rulings made by the Wisconsin and Ohio courts.

In no such case had the Board been legally or properly called upon to examine applicant, touching his qualifications to practice medicine and surgery; and until such demand is made and such proofs are furnished the Board is under no legal obligation to examine him or any of them.

So, under either view of the case, whether we consider the rules of the Board valid or invalid, relators are not entitled to have the alternative writ of mandamus made peremptory, for the reason that the Board has not been legally called upon to give them the examination which they ask this court to compel it to give them.

It is elementary that a writ of mandamus will not issue commanding an inferior court, tribunal or ministerial body to act until it is first established by the evidence that said court, tribunal or ministerial body has been legally requested to act, and that it has illegally declined to do so.

This court in the case of State ex rel. vs. Associated Press, 159 Mo., l. c. 421, in passing on this question, said: "It is fundamental in the law of mandamus that it is indispensable to granting the writ that a prior express and specific demand be made of respondent of that which relator seeks and that a refusal of such demand occurred before relator has any standing in court, or his application for the writ contains any grounds for relief."

We are, therefore, clearly of the opinion that the judgment of the court making the alternative writ of mandamus peremptory was erroneous.

III.

The relators are not without remedy, if they possess the necessary qualifications to practice medicine and surgery in this state. If they possess the necessary scholastic attainments and diplomas from some reputable college, and if they can produce before the Board of Health satisfactory evidence of the reputableness of said college, then doubtless the Board will, upon proper request, give them an examination, as provided for by the Act of 1907, and, if found qualified, the Board will presumably issue to them licenses to practice medicine and surgery in this State; but, if after such showing the Board should injustly and arbitrarily refuse or decline to examine relators, it would then be time enough to institute mandamus proceedings against the Board, requiring it to act in the premises.

State ex rel. vs. Adcock, 206 Mo. 550.

The judgment is reversed, and the cause remanded with directions to the Circuit Court to quash the alternative writ of mandamus heretofore issued by it, and to dismiss relators' petition.

All concur, except Laning, J., who dissents.

A. M. Woodson, Judge.

BOOK REVIEWS

Practical Fever Nursing. By Edward C. Register. Illustrated. pp. 352. Philadelphia and London: W. B. Saunders Co. 1907.

Dr. Register's book is a concise and valuable contribution to the subject of fever nursing. It contains practically all the information a nurse should possess on medical topics in the care of the sick, and describes in a succinct and acceptable manner just what duties a nurse should fulfill. Practitioners and students will also find the book useful.

Practical Dietetics. By W. Gilman Thompson, M. D., Professor of Medicine in the Cornell University Medical College, New York City. New York: D. Appleton & Co.

This is a practical work of over 900 pages, every one filled with something good for the physician. It has numerous cross references and a full index, and takes up the question of feeding both the sick and the well from infancy to old age. It contains a large list of acute and chronic diseases with diet appropriate to each; also the views of the world's foremost writers on the subject, and the dietary of the leading hospitals, army rations, etc. In a word, it is the study of foods to their last analysis, and will prove a valuable aid to every physician who is seeking to give his patients the advantage of the best there is in medical science. A. L. A.

Song and Story From Les Chenaux: Vacation Memories. By Dr. William Porter, St. Louis, Mo.

This is a delightfully interesting volume of prose and verse composed by the author in moments snatched from the busy hours of practice. We see between the lines many pathetic scenes that left a deep impress which

the doctor has faithfully reflected in these pages. But it is not all sad, for there are many scenes in wood and valley that will bring memories of pleasure to all who have felt the delights of communing with nature far away from the busy, hurrying life of town and city. The book is artistically bound in green and gold and printed on deckle-edged paper.

Treatise on Diseases of the Skin: For the Use of Advanced Students and Practitioners. By George W. Stelwagon, M. D., Ph.D., Professor of Dermatology, Jefferson Medical College, Philadelphia. Fifth Edition, Revised. Handsome octavo of 1150 pages, with 267 text illustrations and 34 full-page colored plates. Philadelphia and London: W. B. Saunders Co., 1907. Cloth, $6.00 net; half morocco, $7.50.

This work needs no introduction to our readers, for its popularity is tested by the fact that five regular editions and two extra editions have been called for during the past five years. In this edition we find many changes made necessary by the rapid advance of modern medicine and especially is this true of tropical diseases, a subject that has been brought more closely to the attention of American students by reason of the more intimate communication established between tropical countries and America during the last few years. Some of the subjects have been rewritten; for instance, the chapters on frambesia and oriental sore. The chapters on verruga peruana and tinea imbricata have been changed and added to. The work is enriched with numerous illustrations, many of them entirely new.

A Text Book of Practical Therapeutics. By Hobart Amory Hare, M. D., B. Sc. 13th Edition. New York: Lea & Febiger.

This is a book of great interest, and one of the most up-to-date treatises on therapeutics. The author deals not only with most modern drug therapy, but covers the entire area of therapeutics on the line of practical application of remedial measures to disease and the feeding of the sick. The work is thorough and should be read by all general practitioners. F. B. F.

The Medical Complications, Accidents and Sequels of Typhoid Fever and the Other Exanthemata. By H. A. Hare, M. D., B. Sc., Professor of Therapeutics in the Jefferson Medical College and Physician to the Jefferson College Hospital, Philadelphia, and E. J. G. Beardsley, M. D., L. R. C. P., Philadelphia. With a special chapter on the Mental Disturbances Following Typhoid Fever, by F. X. Dercum, M. D., Professor of Nervous Diseases in the Jefferson Medical College. Second edition, thoroughly revised and much enlarged. Octavo, 398 pages, with 26 engravings and 2 plates. Cloth, $3.25 net. Lea & Febiger, Philadelphia and New York, 1909.

This volume is devoted to a group of diseases which in the practice of every physician play a most important role. While the first edition of this work was devoted entirely to typhoid fever this new second edition also includes the other exanthemata and thus the field of its usefulness as a reliable guide book for the general practitioner has been greatly increased.

BOOKS RECEIVED.

A Practical Treatise on Ophthalmology. By L. Webster Fox., M. D., L.L.D., Professor of Ophthalmology in the Medico-Chirurgical College; Opthalmic Surgeon in the Medico-Chirurgical Hospital, Philadelphia, Pa.; Member of the Army Reserve Medical Corps, etc. With six colored plates and three hundred illustrations in text. Price, cloth $6.00. New York and London, D. Appleton and Company, 1910.

Diseases of Children. Edited by Abraham Jacobi, M. D., L. L. D. Member American Medical Association, American Pediatric Society, Association of American Physicians, American Climatological Association, Congress of American Physicians and Surgeons, New York Academy of Medicine, New York Pathological Society, New York Obstetrical Society; Consulting Physician Mt. Sinai, Bellevue, German Babies', Women's Infirmary, Orthopedic, Minturn, and Hackensack Hospitals, etc. An Authorized Translation from "Die Deutsche Klinik." Under the general supervision of Julius L. Salinger, M. D. With thirty-four illustrations in the text. New York and London. D. Appleton and Company, 1910.

Heart Disease Blood-Pressure and the Nauheim-Schott Treatment. By Louis Faugeres Bishop, A. M., M. D. Clinical Professor of Heart and Circulatory Diseases, Fordham University, School of Medicine, New York City; Physician to the Lincoln Hospital; Late Chairman of the Section on Medicine of the New York Academy of Medicine; Member of the New York Pathological Society; Alumni Association, St. Luke's Hospital, etc. Third Edition. New York, E. B. Treat & Company. 1909. Price $3.00.

The Practical Medicine Series. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the general editorial charge of Gustavus P. Head, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume X. Nervous and Mental Diseases, edited by Hugh T. Patrick, M. D. Professor of Neurology in the Chicago Policlinic, Clinical Professor of Nervous Diseases in the Northwestern University Medical School; ex-President Chicago Neurological Society. Charles L. Mix, A. M., M. D. Professor of Physical Diagnosis in the Northwestern University Medical School; ex-President Chicago Neurological Society. Series 1909. Chicago. The Year Book Publishers, 40 Dearborn Street. Price of Series, 10 volumes, $10.00. Price of this series when sold separately from series, $1.25.

Spondylotherapy. By Albert Abrams, A. M., M. D., San Francisco, Cal. The Philopolis Press, Suite 406 Lincoln Building, San Francisco, Cal. Cloth, 420 pages, 100 illustrations. Price $3.50.

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ORIGINAL ARTICLES

A PLEA FOR AN EARLY AND MORE CAREFUL DIAGNOSIS IN JOINT TUBERCULOSIS IN CHILDREN.

By Archer O'Reilly, M. D., St. Louis, Mo.

By far the most common of the joint diseases of childhood are those of tubercular origin, and of these the most frequent are tuberculosis of the spine, hip and knee.

Up to a short time ago, orthopedic surgery was not given as much prominence as it deserves and as a result the diagnosis and treatment of joint tuberculosis are not as well understood by all as they should be. Because attention has not been sufficiently directed upon the points of differential diagnosis, the case is often wrongly diagnosed and improper treatment, based on this erroneous diagnosis, is given. As a result the patient goes from bad to worse.

In these cases, as a rule, where the diagnosis has been missed, there is marked deformity, usually permanent. The patient suffering greatly and the general condition is deplorable. The histories are all very familiar; the parents are told that the disease is rheumatism and are given some liniment to be rubbed on the leg which will soon make it all right again. The patient is seen only a few times and is allowed to walk on the leg until it becomes so painful that use is impossible, or until marked and permanent deformities have resulted. The parents become discouraged, decide that there must be something more than rheumatism, and go somewhere else. In the meantime irreparable damage has been done. The patient is left a hopeless cripple, often riddled with sinuses. If any relief is possible, it is usually obtainable only by some operation, more or less serious. All his suffering and damage could have been avoided by a proper diagnosis when the case was first seen, and by a

little knowledge of the fundamental principles of treatment. It is to prevent these conditions as far as possible that this plea for an early diagnosis of tubercular joint disease is made.

There are a few points in diagnosis, prognosis and treatment which may help the general practitioner in making an early and correct diagnosis. Only the three most common forms of joint tuberculosis will be dealt with; *i. e.,* tuberculosis of the spine, the hip and the knee. These three forms are the most frequent of the tubercular lesions, and the deformities resulting from the lack of proper care are the most severe and debilitating.

In tuberculosis of the joint the onset is usually gradual, though at times it may be sudden. Fever in localized tuberculosis of the joint is slight or absent. If there is a general tuberculosis, a typical temperature will be obtained. High fever with a localized joint lesion generally points to some other infection, such as osteomyelitis.

The cardinal symptoms of tuberculosis of the joint are: (1) pain; (2) tenderness; (3) muscular spasm and limitation of motion; (4) night cries.

(1) *Pain:* The amount and severity of the pain vary. It is usually an early symptom, but frequently the disease may have reached an advanced stage before the pain becomes marked. Pain is often referred, due to irritation of adjacent nerves. In Pott's disease it may be referred to the head, neck, chest, abdomen or the hip. It may be referred to the back of the abdomen. Pressure over the spine or transverse processes at the site of the disease does not cause pain. In the hip the pain is very frequently referred to the knee, but often pain is located definitely at the hip. It may often be elicited by pressure over the trochanter. In the knee, pain is usually definitely located in the joint.

(2) *Tenderness* is always present and may be elicited by active and passive movements. In the early stages and in milder cases, sensitiveness may be determined only by quick motions, while with slow and gentle manipulations, motion may be possible in all directions without eliciting tenderness.

(3) *Muscular* spasm is an expression of joint sensitiveness. The muscles contract to prevent motion in the joint; motion in the joint causes pain. In the early stages muscular spasm may be very slight and may manifest itself only by a hitch or slightly jerky motion on manipulation of the joint; later this results in limitation of motion, as the disease progresses this limitation becomes mechanical. In the spine, spasm manifests itself by prominence of the spinal muscles, and by rigidity of the back. When the condition is cervical, torticollis results, in which all the muscles are contracted. Spasm in low dorsal and lumbar disease causes a stiff poker or military back, in which the back is held perfectly rigid, causing a typical posture; the back is held straight and the shoulders are thrown back, and if the patient attempts to pick an object from the floor, he does so by bending the knees and hips and lowering the hand to the ground without bending the back. In the hip the motions are

limited in all directions. Abduction and hyperextension are the motions earliest affected. In the knee there is an early stiffness which tends to flexion as a result of spasm.

(4) *Night cries* are common in all tubercular conditions, but are not confined entirely to these lesions. They are the result of muscular relaxation. The patient suddenly wakes from a sound sleep, crying out. Usually little or no pain is felt on awakening. The muscles, as a result of sound sleep, relax, allowing the diseased joint surfaces to rub over each other. This causes intense pain which wakes the patient and causes the outcry. On awakening the muscles contract again and the pain disappears. If night cries return during treatment it is a sign that something is wrong and that the treatment is not having the desired result. Night cries may be present in any condition in which the joint surface is diseased. They are, however, more common in the tuberculous conditions.

Muscular atrophy appears as one of the less early but constant symptoms in tuberculous joint disease. It is due to disuse of the affected limb. There is also some atrophy in the bone. The muscles above and below the diseased joint are affected. Shortening of the affected limb is also present. This shortening appears as a later symptom and is due to bone destruction, also to a certain extent as a result of disuse and malnutrition. It is most marked in hip disease. In the early stages of tuberculosis of the hip and knee there may be lengthening of the affected limb as a result of infiltration into the joint, and more commonly to a stimulation of the epiphysis at the seat of the disease; this later becomes shortening.

The diagnosis of the various joint conditions is made upon the cardinal signs.

In Pott's disease the onset is insidious. Referred pain is an early symptom appearing, even before rigidity, in the head, neck, chest, abdomen or hip, and especially in the epigastric region; this is the "dry stomachache" which children so frequently complain of. A stiffness and awkwardness of gait and posture are noticed; all spinal motions are guarded and there is marked muscular spasm, unguarded motions cause much pain, downward pressure on the head elicits pain, while pressure on the spinous and transverse processes does not. The patient is listless, does not like to play and has a tendency to rest its body weight upon its arms. When this deformity appears the diagnosis is comparatively easy. The kyphos begins as a small prominence of one spinous process, which gradually becomes larger as more vertebræ are involved. The angle of the kyphos in Pott's disease is sharp and is definitely localized. The following conditions must be considered in a differential diagnosis of tuberculosis of the spine:

(a) Congenital torticollis gives a history of the condition from birth. The head is held to one side with a shortening of the sterno-

cleido-mastoid muscle. In this condition there is practically no pain and there is marked facial asymmetry.

(b) In spasm of the neck there is a history of injury with sudden onset and all motions are painful. In muscular wry neck motions which put muscles on the stretch are painful and the onset acute. Pain usually is relieved by heat and gentle massage. In rheumatism of the spine the onset is sudden, movements apt to be painful when active, while passive movements are apt to be without pain.

(c) In cervical caries the onset is slow, there is general muscular spasm, the head is fixed upright or but slightly inclined, or the chin may be poked forward. The pain is severe with all motions. It may be worse toward the latter part of the day. Pressure down on head is painful, while lifting the head relieves pain. The patient is apt to support the chin in the hands thus relieving pressure. If simple nodding motion is possible without pain, it shows the occipito-atloid joint free from disease. If gentle rotation of the head from side to side is painless it shows that atlo-axoid joint is not affected.

(d) A rachitic spine may be mistaken for Pott's disease, but here there are other symptoms of rickets and the kyphos is different. In rickets the kyphos is round, involves the entire spine and tends to disappear wholly, or partially, when the child is in a prone position, while in Pott's disease it is sharp and localized and does not disappear in a prone position. In rickets there may be pain and muscular spasm, but the other rachitic signs confirm the diagnosis. Rickets, also, is apt to occur earlier than Pott's.

(e) Sprain of the back follows some injury and tends to recover more quickly.

(f) After typhoid fever there may be an involvement of one or more vertebræ. Here you have the previous history of typhoid and a spinal attack, coming on during convalescence or immediately after. As a rule there is no bone destruction, though it may occur.

(g) High dorsal Pott's is differentiated from round shoulders by the fact that in round shoulders there is no pain, the kyphos is rounded, and the spine is flexible in the rounded part.

(h) In scoliosis the curve is lateral and the onset is gradual. There is usually very little pain, if any, or muscular spasm; rigidity if any is due to structural change and is accompanied by rotation of the vertebræ. Occasionally there may be a lateral deviation in early cases of Pott's disease, due to a caries of one side of the body of the vertebræ. This deviation is usually a sharp angle and the other signs of tuberculosis are present.

(i) In hysterical spine there is much pain, usually throughout the spine, the skin is hypersensitive to pressure and possibly to heat and cold. On flexion the spine is not apt to be rigid at the sensitive part, and if the attention is diverted the part can probably be freely moved. There is no pain on vertical pressure.

(j) In osteomyelitis of the spine the constitutional disturbance is greater, the transverse and spinous processes are also apt to be involved, the onset is acute and is accompanied by high fever. Tenderness is present at the seat of the disease, suppuration appears early. Marked kyphos is not common.

(k) Malignant growths. Sarcoma of the spine is rare in childhood. Carcinoma is usually secondary. When a kyphos is present it is usually rounded. The other symptoms may closely resemble those of tuberculosis.

(l) Spondylitis deformans is usually in the adult. The onset is slow, the whole spine is usually involved and stiff, due to bony obstruction. If a kyphos is present it is usually in the shoulders and rounded. Other joints, especially those of the fingers, are involved.

(m) In early hip disease the reflex rigidity of the spine may lead to some confusion, but the other signs of hip disease will be present.

(n) In syphilis of the spine the diagnosis is difficult. Other symptoms of syphilis are apt to be present. The response to antisyphilitic treatment helps in the diagnosis. The condition is not common.

The *x*-ray is not a great aid to diagnosis in tubercular conditions of the spine. It is difficult to get a good picture and does not show anything until definite bone destruction has taken place.

In *Hip Disease* the diagnosis is based on limp, which in the early stage is apt to be more marked in the early morning; pain, which is often referred to the knee and which may be very slight or absent; muscular spasm, which is an early and constant symptom; limitation of abduction, outward rotation and hyperextension are early signs. Tenderness may be elicited by pressure over the trochanters. There may also be trochanteric thickening; muscular atrophy, which is an early symptom, shortening of the affected limb and night cries. As a result of muscular spasm and a desire to assume the most comfortable position, the limb is drawn into characteristic positions,—abduction, flexion and eversion. Abduction is an early symptom. Later, as the disease progresses, the leg, as a result of muscular spasm, may be held in a state of rigidity simulating ankylosis. The patient is apt to lie with the sole of the foot of the unaffected leg pressing down on the back of the foot of the diseased leg, thus tending to separate the joint surfaces and relieve pressure. The *x*-ray is of use as it shows any area of the disease in the bone and any roughening of the joint surface. A differential diagnosis must be made between hip disease and the following:

(a) Synovitis of the hip and tuberculosis may be difficult to differentiate. The course of synovitis is shorter, marked thickening is less marked about the joint in the early stages than in tuberculosis of the hip. The *x*-ray would also be of help.

(b) Lumbar Pott's disease may simulate hip disease on account of the referred pain and tenderness due to the proximity of the spinal disease and irritation of the psoas muscle, which also results in limitation

of hyperextension; but here there would be back symptoms. The hip motions would be less limited, especially abduction.

(c) In acute inflammatory conditions the constitutional symptoms are much more marked, the fever is much higher.

(d) Chronic arthritis deformans, onset slow, usually without any history of injury. Usually, in adults, other joints are involved. The *x*-ray shows true osseous proliferation.

(e) Osteomyelitis of the hip. The symptoms are often very similar to hip disease; as a rule the onset is more acute, the swelling is greater and the temperature is higher. The constitutional symptoms are apt to be more severe.

(f) In the early stages of anterior poliomeylitis there may be pain in one hip with immobility, but the other symptoms of hip disease are lacking, and the presence of paralysis soon makes the diagnosis positive.

(g) In congenital dislocation of the hip the presence of the deformity from the beginning of walking, absence of pain and muscular spasm, the fact that the trochanter is above Nelaton's line and the *x*-ray makes the diagnosis easy.

(h) Perinephritic abscess and appendicitis may simulate hip disease on account of irritation of psoas muscle and tenderness. In these the onset is more acute and the constitutional symptoms are greater. Flexion is the only deformity. Extension is resisted, but the other motions are free.

(i) Separation of epiphysis and fracture of the neck of the femur may be distinguished by the history and *x*-ray.

(j) Sarcoma is apt to be difficult of diagnosis. *X*-ray will help. Also the fact that the pain is more apt to be constant in spite of efficient fixation. It is also more common in adults.

(k) Hysterical hip-spasm is more voluntary. Hyperesthesia and other signs of hysteria are apt to be present, the condition also is apt to be intermittent, atrophy and shortening are absent. *X*-ray will be of use.

(l) Scurvy may simulate hip disease, but as a rule the tenderness is general in all joints and the other signs of scurvy are present.

In *Tuberculosis of the Knee* the onset is insidious, with an intermittent lameness, usually accompanied by a slight flexion of the leg; general enlargement of the knee, as a result of bony and synovial thickening, which tends to obliterate the landmarks on the front and sides, giving an elastic sensation on palpation. Occasionally there is also some infusion into the joint. The swelling is described as fusiform. Increased surface temperature is usually present; also stiffness, muscular spasm and tenderness on motion. Very early we find limitation of complete extension and flexion. This limitation is the result of reflex muscular spasm. Atrophy of calf and thigh is also present. Pain may sometimes be absent and when present is located, as a rule, in the knee. The *x*-ray is of value as showing a bone focus and involvement of the joint surface. The dis-

ease starts usually as a focus at the epiphysis and works into the joint. These foci are plainly shown by the *x*-ray. Roughening of the joint surface and bone involvement are not present in ordinary synovitis. Aspiration of the joint and inoculation into a guinea pig will help clear up any doubtful case.

(a) Injuries to the joint may be followed by pain, limp and limitation of motion in severe cases, also by synovitis. As a rule these tend to recover quickly; if they persist, tuberculosis should be suspected. Sluggish cases of synovitis in children should be regarded with suspicion, as they are apt to develop into a tubercular condition.

(b) In periarticular involvement there is capsular thickening, but no bone involvement or enlargement.

(c) In bursitis and periarticular inflammation the swelling is of a different shape. The fluid is not in the joint and there is less muscular spasm and stiffness.

(d) In rheumatism the onset is more acute. The pain is intense and the constitutional symptoms are much more severe, the fever is high; usually other joints are involved. Rheumatism responds to antirheumatic treatment.

(e) The referred pain from hip disease may mislead, but the knee is not swollen, there is no pain on motion or muscular spasm and other symptoms may be found in the hip.

(f) Frequently there is pain in the knee as a result of flat foot. This is usually on the inner side and accompanies weight bearing; here also the other symptoms of knee infection are wanting.

(g) In the chronic rheumatic conditions the onset is slow, several joints are involved, and the swelling is periarticular. *X*-ray makes the diagnosis definite.

(h) Syphilis. The differential diagnosis may be very difficult. The syphilitic joint shows a good deal of capsular thickening. There is usually less muscular spasm and less synovial infiltration. There is also a history of other syphilitic symptoms.

(i) In the acute infectious conditions the onset is acute, the pain severe, swelling marked and the constitutional symptoms more severe.

(j) Sarcoma, beginning in or near the epiphysis of the femur or tibia, may closely simulate tuberculosis. If periosteal, it is usually more localized and the swelling is more irregular than in tuberculosis. Central sarcoma may simulate tuberculosis closely, but in sarcoma the pain is constant and severe in spite of fixation and treatment, and there is no tendency to improvement. The *x*-ray is the only means of an early diagnosis and shows the destruction of the substance of the bone about the tumor to be much greater than that caused by tuberculosis of the joint.

The use of tuberculin in its various forms as a diagnostic agent is valuable only as a negative test. If the reaction is positive it does not necessarily mean that the joint is tuberculous. Tubercular foci are so common that one may be present in some other part of the body. If the

reaction is negative, it, proves, of course, that the joint is not tubercular. In general it must be borne in mind that the tubercular lesions are much the most common of all joint diseases in childhood. If there is any doubt as to a diagnosis, it is safe to assume that it is tubercular.

Of the prognosis in joint tuberculosis, Bradford and Lovett* have the following to say: "The destructive process, which is so prominent a feature of joint tuberculosis, is almost from the first accompanied by a reparative process tending to limit the destruction, protect the surrounding tissues and prevent generalization. The prognosis depends in the individual case upon which of these two processes prevails over the other. The former is favored by insufficient local treatment, bad inheritance, poor general condition, unfavorable surroundings, and in general what may be termed resistance to the tubercular process. The reparative process is favored by the reverse of these conditions. In the majority of all cases of joint tuberculosis, properly treated at a fairly early stage, the outlook is favorable. The prognosis is more favorable in children than in adults." Taylor† says: "The prognosis in tuberculous joint affections is distinctly good under rational treatment, the large majority recover with useful limbs. The untreated and improperly treated cases, however, go from bad to worse, and finally die of acute tuberculosis, tubercular meningitis, sepsis, waxy viscera, exhaustion, or intercurrent diseases, or recover with crippling deformities and impaired constitutions."

The above quotations are given to show that authorities or orthopedic surgery agree that with proper treatment the majority of cases should recover with useful limbs. With our present knowledge of joint tuberculosis and its treatment, there should not occur any of those deformities which formerly were so common as the result of ignorance and improper treatment. But in order that a case may be treated intelligently, the condition must first be diagnosed.

Only a word here is necessary about treatment. Practically all conservative treatment is based on two points: fixation of the diseased joint and prevention of weight bearing.

In Pott's disease fixation is obtained by braces or jackets of plaster of Paris, celluloid or leather. Prevention of weight bearing is obtained by holding the back in a position of hyperextension, thus taking the weight off the diseased bodies of the vertebræ. In the average case, especially with the more ignorant classes, the plaster jacket is probably the most serviceable because when once applied by the physician it cannot be removed or improperly adjusted by the parents. In applying a plaster jacket, the spine and anterior-superior spines of the ilium should be well padded with felt. The jacket should fit well about the pelvis and should be carried up the chest to the sternal notch in order that the proper amount of pressure and hyperextension may be secured.

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*Bradford and Lovett, Orthopedic Surgery.

†Henry Ling Taylor. Orthopedic Surgery for Practitioners.

In *Hip Disease* fixation may be secured by a splint or by a plaster of Paris spica. In the average case the plaster spica is more serviceable than the splint, for the same reason as in Pott's disease. A spica, to be most efficient, should be applied from below the axilla to the ankle. As the condition improves the spica may be shortened to the knees. Weight bearing is prevented by a high sole on the foot of the sound limb and by the use of crutches. In *tuberculosis of the knee* the treatment is also by splint or plaster bandage. The plaster should be carried from well into the groin to the ankle or may include the foot. Weight bearing is prevented by a high sole. In all cases the diseased joint should be disturbed as little as possible and all needless manipulations should be avoided. The patient should be under constant supervision in order that any tendency to deformity may be observed and prevented. Treatment should be continued until all symptoms have been absent at least six months. Throughout the disease a general hygiene such as is used in the treatment of pulmonary tuberculosis should be followed. If these principles of treatment are constantly borne in mind, a great deal of injury and much deformity may be avoided.

A very good rule to follow in disease of the joints in children is, that if a diagnosis cannot be definitely made and if tuberculosis cannot be absolutely excluded, then the case should be given the benefit of the doubt and treated as tuberculous. None of these conditions will be hurt by this treatment, while failure to immobilize in a tuberculous condition would do great harm. Until a definite diagnosis can be made the case should be most carefully watched.

The object of this paper has been to give one or two points on the symptoms and diagnosis of joint tuberculosis which may be of some help to the general practitioner and which may enable him to recognize this disease at the earliest possible time; for, as the prognosis quoted above shows, it is with an early and proper treatment that the results are most favorable. In order to get early treatment, the diagnosis must be made as soon as possible. It is in the hope of promoting this end that this paper has been written. If such a result can be obtained a great deal of suffering will have been avoided and many needless deformities will have been prevented.

Metropolitan Bldg.

INTESTINAL OBSTRUCTION WITH SPECIAL REFERENCE TO INTESTINAL PARESIS.

By T. E. Potter, M. D., St. Joseph, Mo.

One of the most difficult and unsatisfactory troubles with which modern surgeons have to deal is intestinal obstruction, especially when associated with intestinal paresis. If the obstruction proves to be from stricture, adhesions, volvulus, hernia, tubercular conditions, appendicitis, etc., these conditions, while dangerous within themselves, are not so alarming, and present more favorable aspects than when complicated with paresis.

The serious feature about obstruction from paresis is not, from the simple fact, that the bowels do not move off the fœcal matter and gas, and balloon up so as to crowd upon the heart and lungs, and in this way interfere with the action of the heart and respiration, but it is the retention, too long, in the intestinal tract, of the toxins, which are soon taken into the blood by absorption. When this occurs, the vital centres become disturbed, then exhausted, and the patient dies from toxemia. When these conditions exist, and we find that the pulse is rapid, wirey, and occasionally intermitting, with an accelerated respiration, associated with extreme nervousness or delirium, we know that toxic poisoning is threatening the life of the sick person, and unless we can do something to eliminate the toxins from the blood, or in some way rid the alimentary tract of this poison, so that its absorption will cease, the patient will surely die. If we are fortunate enough to get the bowels to move, which is rarely if ever done at this stage of the trouble, and the kidneys and the skin act well, then by the use of heart stimulants, we may prevent exhaustion and the patient may recover. The great question is: "After we wait a reasonable time, and internal medicine and enemas fail should we do nothing in the way of surgery? If we resort to the knife, what is the thing to do?" I believe surgery is often behind in dealing with such cases and that as a rule, the conscientious surgeon shrinks from the responsibility he has to assume. I realize that it certainly takes great nerve to open the abdomen of a man or woman, who is suffering from paresis of the bowels, caused by a septic peritonitis or volvulus, and make an artificial anus on the right side; or open portions of the bowel, and wash out the intestinal tract in sections, in order to rid them of toxins that are threatening the patient's life. The question in my mind is, ought we not to do this, even if it promises but little, for by following this line of practice, we may save some, even if we lose many.

Two years ago, last Christmas, a boy twelve years old was brought to the Ensworth Hospital suffering with appendicitis and general peritonitis. He had been ill for seven or eight days. He was distended until it seemed that distention had reached the limit. His lips and face were cyanotic, pulse very poor, no bowel movement for two or three days; he was suffering terribly. There was nothing left to do but operate, or stand by and see him die in a few hours. We pursued the former course, gave him but little anæsthetic, made the opening in the abdomen over McBurney's point, and the pus, which gushed out as from a fountain, was in the free peritoneal cavity, or at least we were not able to make out any abscess wall; the pelvis was apparently full of it. The gangrenous appendix was located, without much trouble, and secured the best we could after the usual fashion, but the tissues of the coecum were very friable. After cleaning him out well with dry gauze, and leaving quite an opening in the abdomen, filled with two or three large rubber drainage tubes, he was still distended almost as much as before the operation. We allowed him to rest until the next morning, before making any attempt to move his bowels, although we gave him a pint of salt solution per rectum while under the anæsthetic, and again during the night another pint. The next day we tried to move his bowels with a six ounce glycerin enema with no results. Repeated enemas failed. He still remained cyanotic with a treacherous pulse. There was considerable vomiting during the day, the night, and the following morning. It seemed to me there was nothing but death for the child. I prescribed three grains of calomel, in ½ grain doses, to be given every half hour; whether he retained it all or not, I do not know, as there was occasional vomiting. During the second night his bowels began to move from the calomel, through a fœcal opening made in the coecum. The movements were large and the amount of gas was immense, but no fœcal matter or gas from the rectum. When I saw him the next morning the cyanosis was gone, the pulse better, and there was no distention. At the end of a day or two, some gas and fœcal matter began to pass the rectum, and we allowed the fistula to close in four or five months, gradually, without interference, keeping the parts as clean as possible during this period. He remained for months in the hospital.

This case reported shows that the great danger in paresis and obstruction is the gradual absorption of toxins, which were, in this instance, beyond any doubt, threatening the life of the patient. When the fœcal fistula was formed, and the intestinal canal, through this opening, could free itself of the poisonous gas and fœcal accumulation, decided improvement was at once noticed. This is only one instance out of several, where we had fœcal fistulas form, and immediately afterwards noticed beneficial results. The question of making an enterostomy in paresis and great distention of the bowel, from any cause where there is obstruction, strongly recommends itself to me as being a justifiable procedure. The opening into the abdominal cavity should not be large, a distended loop

brought into the wound, and a veritable artificial anus made. The opening in the abdomen can be made in the median line, or on the right side above Poupart's ligament, or even on the left side.

The performance of an enterostomy will allow the gas and fœcal matter to escape, and often, in a short time, the obstruction gives way and the original infliction is cured; when this takes place, and the bowels begin to move in the natural manner, the opening in the bowel should be closed, or if thought best, allowed to close itself by granulating in around the wound. In making an enterostomy, the opening in the bowel should not be any larger than necessity demands. If the bowels begin to move, a second operation can then be made, if necessary; the wall of the abdomen can be opened sufficiently to explore and find the true seat of the trouble and correct it. To make a large incision into the abdominal cavity, when there is a trouble so grave as to require an enterostomy, is too serious a thing, if a small one will answer.

Bryant's operative surgery, Vol. 2, page 818, edition 1905, says: "The following statistics, compiled by Curtis, bearing on the results of enterostomy in acute intestinal obstruction, emphasizes the importance of the procedure in no uncertain terms. In 62 cases, 46 were relieved, 6 unrelieved, and the outcome not stated in 10; 51.7 per cent. recovered, and in 60 per cent. of the recoveries the fœcal flow resumed the natural channel. According to Curtis, the rate of mortality in abdominal section, in this class of cases, is twenty per cent. greater than that of enterostomy, and the benefit of the former does not compensate for the greater death rate." The same author further states, that an enterostomy may be made under cocain when the patient could not stand, under a general anæsthetic, an abdominal section of sufficient size to correct the cause.

George H. Monks, M. D., of Boston, Mass., has published a paper in the "Annals of Surgery" for June, 1908, in which he recommends in conditions of paresis and peritonitis, flushing the intestinal canal with salt solution through the multiple enterotomy openings. He suggests that the first incision be made up as high as practical, and the other in a loop down further towards the distal end, the number of incisions must be determined at the time by the operator, but in all cases, he should make as few as possible. Each case presents its own requirements. The bowels should be flushed out between the incisions, and as soon as the upper section is cleansed out with the salt solution the upper incision must be closed with a Lembert suture, the parts cleansed well, and then returned. If a second opening is made, do this in the same manner and then close both openings in the bowels, as in the first instance, cleaning the bowels well before returning them. In order to accomplish this properly, the surgeon must introduce his irrigation nozzle in the wound of the gut, so that he knows, if possible that he is throwing the irrigation fluid towards the distal instead of the proximal end of the bowel.

Monks makes the following suggestions as to how a knowledge of

the proximal and distal end can be accurately obtained. We quote him verbatim except where he refers to his cuts.

"A loop of intestine is gently drawn out of the wound by the surgeon; the assistant, grasping the two ends of this loop, holds it suspended vertically from the wound. The surgeon putting his thumb on one side of the loop and his fingers on the other, causes them gently to proceed down the mesentery towards the right side of the spine,—in other words towards the root of the mesentery. If he finds a twise in the mesentery,—a condition easy to detect—he withdraws his hand, and turns the loop of the bowel in such a way that the twist is removed. His thumb and finger are then pushed again down the mesentery, in the same manner as before towards the mesenteric root. If there is then no twist in the mesentery, the surgeon knows that the proximal end of the loop lies at the upper end of the wound, and the distal end of the loop at the lower end of the wound. In this simple manner he learns the real direction of the gut, and, therefore the direction in which the irrigating nozzle should be placed in the bowel. Simple as it is, however, it is hardly likely that one can successfully carry out this procedure on the living subject until one has tried it on the cadaver." Owing to the importance of this subject, and lack of experience on the part of the writer, in making this operation we quote in full the suggestions of Dr. Monks as to his technique. He says:

" 1.—"Make a free opening through the abdominal wall in the median line, the incision reaching from the pubes to, or above, the umbilicus.

2.—Pick up a loop of bowel high up in the wound.

3.—Determine by reference to the root of the mesentery which is really the upper and which the lower end of the loop. This determination is essential, if one wishes to know in which direction the salt solution will flow during the process of flushing.

4.—Make an enterotomy wound in the loop. Allow gas and feces to escape, and insert the tube into that arm of the loop which leads in the direction of the ileocæcal valve: in other words insert the tube pointed downwards into the gut.

5.—Allow warm salt solution gradually to distend a few of the loops below this opening. If nothing more than this is done in the way of washing, it seems to me that the substitution, in the bowel, of warm salt solution in place of the gas and feces that have escaped will presumably help the patient.

6.—If the patient's condition will allow it, pick up the loop which is apparently the lowest of those distended, make a second opening, insert a second tube—this one directed upwards—and allow the wash water to run out through the tube until it becomes clear.

7.—Carefully cleanse and sew up the first enterotomy wound, and return to the abdomen that part of the bowel which has been washed out. In fact as soon as any enterotomy wound is no longer needed it should

be cleansed and sewed up, and the loop of bowel which has been sutured should be returned to the abdominal cavity.

8.—Repeat this procedure as many times, consistent with safety, as may seem necessary, each time isolating and cleansing a segment of intestine lower down.

9.—Finally if the patient's condition will permit further operating, fill the colon with salt solution from the lowest enterotomy opening, and insert a rectal tube to remove any wash water or intestinal contents which may reach the rectum. It is well to insert the rectal tube before attempting to close the abdominal wall, and thus make it easier by removing some of the wash water in the colon, and diminishing its size, to bring together the edges of the wound.

10.—Use great gentleness in all manipulations and carefully avoid contamination of the peritoneum. The method already described of protecting the intestines between two layers of rubber dams bids fair to be of real service.

11.—In the event that peritonitis is also present, the peritoneal cavity should be washed out thoroughly, before flushing the intestinal canal and also after it."

There is another important point that I must call attention to before concluding this paper. Why, in order to re-establish peristalsis, is it so necessary to flush or drain the bowels? Any one who has studied the histology of the small intestine cannot fail to be impressed with the extensive nerve supply and the numerous nerve ganglia lying between the different muscular coats and fibres as well as in the mucosæ. In the wall of the gut there is the plexus of Auerbach and of Meissner with numerous nerve cells. These important nerves and their ganglia, coming immediately in contact with the toxins, are decidedly affected by them before general systemic depression takes place. So it is much better to remove these toxins early, by drainage or flushing, than to wait until the patient is generally exhausted.

EXCISION WITH IMMEDIATE SUTURE OPERATION FOR FISTULA IN ANO; WITH REPORT OF CASES.*

By E. H. Thrailkill, M. D., Kansas City, Mo.

In so far as I have been able to learn, no paper upon this subject has been presented before this Association. This operation was first attempted by Dr. Chassaignac, in 1856. The wound became infected and suppuration followed. No other attempt was made until 1879, when Stephen Smith, of New York, undertook it with success and published his results. It was for some time limited to small direct fistulas, but at present the proctologist considers no fistula too extensive for its employment, except during active suppuration.

Time will not permit here, of a discussion as to the comparative value of the various operations for fistula in ano, but in defense of this procedure permit me to remind you of a popular belief that prevailed prior to 1880, with the laity, supported by about 75 per cent. of the medical profession; viz.: it was maintained that a fistula, once established, should be left to take its course, as it was ladened with pus forming germs (which meant a tuberculous infection), and to close the fistula would lock them up in the system causing consumption and eventually death.

The majority of modern surgeons ridicule this belief, but I wish to say, that, inasmuch as a large percentage of these fistulæ are tubercular in origin, their belief was well founded.

A few words relative to tubercular fistula, will, I think, lend color to their assumption. In this variety nature protects the body against an invasion of the bacilli by establishing a dense wall around these fistulous tracts which can not be penetrated by the bacilli.

Now in doing the simple method of incision, especially where the curette is employed, which partially destroys the wall, the vessels and lymphatics are opened, allowing the bacteria to enter, with subsequent infection of other organs and death. How many of us have seen tuberculosis of the lungs, peritoneum and intestines, rapidly follow this method of procedure.

I am often asked by physicians how I treat tubercular fistula and if I attempt a cure by operative means? I invariably answer in the affirmative, provided the tuberculosis is not too far advanced.

Tuttle, in his most excellent work on diseases of the colon and rec-

*Read in the Surgical Section, Fifty-second Annual Meeting, Missouri State Medical Association, Jefferson City, May, 1909.

tum, says: "If a tubercular fistula must be operated upon by the simple method of incision, it had far better be left to its own course."

This is often a localized tuberculosis and the foci of disease can be as radically removed here as elsewhere. Is not the proctologist as much justified in the removing of tubercular tissue here as the general surgeon is in the removal of tubercular kidney, bone and glands? And, is not the prognosis as favorable?

In further condemnation of other operations, and in defense of the immediate suture, I would say that the after-treatment of the former occupies an indefinite time, with the patient in a semi-invalid condition during this time. And if the sphincters have been divided the fear of incontinence is constantly before you during the healing process.

With the immediate suture method, if done with care and thoroughness, the patient will be allowed to leave the hospital on about the eighth day. If primary union is not obtained the patient is in no worse condition than if other methods had been employed.

After doing a considerable number of the excision with immediate suture operations with very satisfactory results, I desire to give my technique in this operation. To obtain the desired results, more precautions in preparing the patient and more care and thoroughness in the technique and after-treatment are required than in doing other operations for the same trouble.

I administer a purgative twenty-four hours before the time set for the operation, usually giving castor oil. Give an enema the night before, and have the parts shaved and a gauze pad saturated in a solution of 1-2000 of the bichlorid of mercury and placed over the parts until the patient reaches the operating room. By emptying the bowels the day before, I find them in a state of rest at the time of the operation. If not, place a piece of gauze in the rectum to protect the field from being contaminated with fecal discharges. After the patient is anesthetized, he is placed in the lithotomy position or on the affected side.

The pad is removed and the ampulla irrigated with some antiseptic solution. The patient thus prepared, I proceed to stretch the sphincters gently but thoroughly, using care not to contuse the tissues.

An exploration is now made to ascertain the class of fistula with which we have to deal. If a straight, complete fistula, I employ an instrument that I devised, which was illustrated and published in the Journal of the A. M. A., of November 17, 1909, and which has proved, in my hands, to be superior to the straight probe.

After the entire fistulous tract is removed, threaeded upon the probe of the instrument, a further search is made for diverticulæ.

The wound is irrigated with some sterile solution and scrubbed with gauze to remove all loose tissue, and all hemorrhage should be arrested before suturing begins. I now place the finger of the left hand into the rectum back of the fistulous wound and crowd its base as near the surface as possible, thus bringing it within reach of the operator, enabling

him thereby, to place in the deep sutures; these should be plain catgut. The sutures should be tied by an assistant.

I use either the mattress or interrupted suture, much depending on the length of the flap. I first suture the ends of the sphincter muscle, then the subcutaneous tissue is brought together and sutured.

Care should be taken, in bringing the skin together, not to have the needle pass down through the subcutaneous tissue; also avoid making sutures too tight.

The external dressing consists of an oleaginous gauze, held in place with strips of adhesive plaster or a T bandage. The mucous membrane above is now drawn down and stitched to the margin of the anus (using the mattress suture) to prevent the lodgment of fecal crumbs in the newly made wound. If gauze has been placed in the rectum, it should now be removed before the dressing is applied. Morphia should be given hypodermically for the first twenty-four hours, to relieve the pain and control peristalsis.

The bowels should be confined for about a week, during which time the patient should be given animal soups or Armour's soluable beef and soft boiled eggs. No hydrocarbons should be given as they cause a lumpy and tenacious stool.

At the expiration of a week, a large dose of castor oil should be given, followed by an enema when the first desire to defecate is felt.

A daily examination of the wound should be made and a careful record kept of the temperature and pulse, to determine the presence of a beginning infectious process.

If primary union is obtained the patient will leave the hospital on the eighth or tenth day.

If the fistula is tortuous or complicated, a probe-pointed grooved director should be passed into the sinus as far as possible, then with a knife, divide the over-lying tissue down to the sinus wall; then grasp the skin at the sides of the wound with the forceps and proceed to dissect out the sinus wall. Other sinuses are treated in a like manner and the parts sutured, as previously described.

I have selected only three cases to report, which present the most unfavorable outlook as to repair by primary union.

Case No. 1. Mr. G., farmer, age 29, referred to me by Dr. J. D. Griffith, of Kansas City, in 1902. Upon examination I found an opening in the median line about six inches above the posterior commissure of anus. From this opening a sinus passed downward, entering the rectum in a sulcus between the muscles.

Just before entering the rectum, however, there was an offshoot passing around to the anterior commissure, where it entered the rectum. The excision with immediate suture was employed and, to my pleasant surprise, there was primary union with restoration of the sphincter in both places. The patient left the hospital on the twelfth day and has had no return of the trouble.

Case No. 2. Mrs. K., age 27, referred to me by Dr. G. T. Twyman, of Independence. She was frail and anemic; mother and two sisters had died of consumption. I found an opening at the left of forchette with a sinus leading to the side of rectum, where it entered about two inches above the anal margin. I will say that tubercular bacilli were found in her sputum some time before she came under my observation. The excision of the fistula and immediate suture was employed with primary union. She left the hospital on the ninth day, has had no return of the trouble and is enjoying excellent health, having gained 17 pounds in weight.

Case No. 3. Mr. C., a farmer, was referred to me by Dr. J. N. Jackson, Kansas City, January, 1909. I found a pili nitle sinus with the opening about four inches above the posterior commissure of the anus. Leading from this was a fistulous sinus passing downward to the right of the rectum, where it entered about an inch from the anal margin. Leading upward and inward was an offshoot, which ended in an opening mid-way between the scrotum and anus, making it a very deep and extensive fistula.

I did excision with immediate suture and the patient was able to leave the hospital on the twelfth day. I have seen him recently and he has had no symptoms of a return of the old trouble.

520 Commerce Bldg.

DYSTOCIA DUE TO CESAREAN SECTION.*

By George Gellhorn, M. D., St. Louis, Mo.

It these days when surgical tendencies prevail in obstetrics, it behooves us to pay particular attention to certain complications arising either concomitant with, or following after, these modern major operations, which, to some extent, mar their brilliancy. It now appears that, for instance, vaginal Cesarean section is not quite as unmixed a blessing as Duehrssen and his followers would have us believe. As for pubiotomy, the all too enthusiastic advocates of this bone-dividing operation will have to admit that,—even though the immediate danger from hemorrhage may be overcome,— there remains a possibility of lasting disturbance of locomotion. The abdominal Cesarean section being the oldest and most popular major operation in obstetrics, has, of course, the longest black list. There are already some twenty cases on record of rupture of the

*Read before the St. Louis Medical Society, Section on Obstetrics and Diseases of Women, February 22, 1910.

uterine scar during a subsequent pregnancy or labor, and it is fair to assume that many others have not been reported.

Aside from these most dangerous sequels, there are undoubtedly other minor degrees of dystocia resulting from a former Cesarean section which are not sufficiently emphasized in literature, yet are of the greatest practical importance to the obstetrician and general practitioner; and it is for this reason that I wish to report the following case:

Mrs. G., 25 years old, has been married 5 years. She had one miscarriage a few months after the wedding. Her second pregnancy went to term two years ago. At this confinement, the membranes ruptured prematurely. Labor lasted in all 2½ days during which time the attending physician made several unsuccessful attempts at delivery with forceps. Finally, the child was declared dead. The patient was then taken to a hospital, and abdominal Cesarean section was performed from which she promptly recovered.

She first consulted me July 12, 1909, as she was pregnant again. She could not, however, remember the date of her last menstruation, which in all probability had occurred about three months previously. Upon examination, a longitudinal scar reaching from the symphysis to the umbilicus was found. The abdomen was pendulous. The fundus uteri was about two fingers' width below the umbilicus. The pelvic measurements were as follows: Sp. 24½ cm., Cr. 29 cm., Tr. 29½ cm., Conj. ext., 19½. The promontory was not within reach. The cervix was intact. The pelvis seemed roomy, and there was no apparent reason for her former dystocia.

The treatment consisted in the application of an abdominal belt and in the regulation of her diet.

September 22, 1909. Her general condition remained quite satisfactory until yesterday when she complained of cramping pain in the lower abdomen. Her right foot was edematous, and the external genitals were swollen to such a degree that urination became difficult. Examination revealed extensive varicosities in both labia majora. The fundus uteri was now about two fingers' width *above* the umbilicus. The uterus was found more in the left side of the abdomen. The abdominal scar was tense as if a pull was exerted from within.

October 15, 1909. The swelling of the labia has been reduced by a tightly fitting napkin worn between the legs; the edema of the latter has ceased after patient wore elastic stockings. The general condition of the patient is very good. The urine at no time showed pathologic changes.

November 1, 1909. Patient was greatly alarmed by what she considered to be labor pains. The fundus, on inspection, had receded to the niveau of the umbilicus, and the fetus was in left transverse position. In the lower half of the incision, there was a firm adhesion of the uterus with the abdominal scar. The latter was quite immovable and showed a distinct depression at the area of the cohesion. The fundus

uteri was markedly arcuate. The right horn could be pushed upward as far as the lower angle of the costal arch, while the left horn and the middle portion of the uterus were practically immovable. Therefore all attempts at external version were futile, although the fetus was freely movable and readily followed the manipulations as far as the limited expansibility of the uterus would permit.

All that could be done was to change the transverse into an oblique position, and a tight bandage was applied to the abdomen to perpetuate this position and, thereby, if possible, to stretch or break the adhesions between uterus and scar.

It became, however, evident, within the next few days, that the fetus would resume its transverse position in spite of all precautions, and that the fixation of the uterus had become permanent.

In view of these serious complications and the grave danger to which they might give rise, viz: rupture of the uterus either before or during labor,—the plan adopted was to deliver the patient in a hospital shortly before the probable date of natural labor. Delivery was to consist of hydrostatic dilatation followed immediately by version and extraction. In case of failure, or of rupture, Cesarean section in connection with Porro's operation was to be done at once.

The determination of the proper moment for intervention offered some difficulties. The patient had forgotten the date of her last menstruation, nor could she state the time of the first fetal movements. The position of the fundus gave no information; the height of the fundus had even been depressed by two fingers' width and corresponded now to the niveau of the umbilicus. Any valuable information could be obtained only from the child, which was very plainly palpable and seemed to lie almost directly beneath the abdominal walls. Following the method of Ahlfeld, the child's natural curve was artificially intensified by an assistant who, with his hands upon the head and the buttocks approximated these two extremities as much as possible. Then the distance between occiput and buttocks was obtained by a pelvimeter and the distance thus found was doubled. The length of the child, thus obtained, was 48 cm.

The pregnancy, then, had proceeded to within two weeks of full term, and the 27th of November, 1909, about one week later, was set for the delivery.

A few hours, however, before the appointed date, the first labor pains occurred. The cervix was long and completely closed. Now and then slight contractions of the uterus could be observed, during which the abdominal scar was seen to cave inward as if it stood under considerable pull from within.

Delivery took place in strict accordance with the program previously decided upon. Dilatation of the cervix was done, first with Hegar's dilators, then a small Vorhees bag was pulled through the cervix until the smallest of the three sizes of Pomeroy's bags could be inserted. Dilatation then was continued with the last named bags and was completed

within sixty-five minutes. Version and extraction of a living girl, weighing six pounds, and measuring 48 cm. in length, was accomplished without difficulty. There was no tear either of the cervix or the perineum.

The uterus contracted fairly well. The placenta could not be expressed and had to be loosened manually. It was then found that there was a ridge upon the inside of the anterior wall of the uterus, and that a small portion of the placenta was adherent to this ridge.

The further course is without interest. The puerperium was normal in every respect. The patient still nurses her child and enjoys the best of health. Owing to the inclement weather, I have not seen her in my office and cannot state the condition of the uterus at the present moment.

The questions worthy of consideration in connection with the case reported are these:

1. The text-books teach us that Cesarean section is contraindicated after repeated attempts at delivery with forceps have been made.
2. Dead child contraindicates Cesarean section.
3. Does the remarkable outcome in this case justify in any way a departure from accepted teaching?
4. Cesarean section may, by complications such as those enumerated in the foregoing case, cause grave danger to mother and child in a subsequent pregnancy, and should, therefore, be limited to very strict indications.
5. A pregnant woman who has previously been subjected to Cesarean section, requires careful watching throughout gestation.
6. The use of hydrostatic bags is of great advantage.
7. The model devised by Pomeroy deserves particular attention on the part of the profession.
8. Delivery after a Cesarean section should be undertaken only in a hospital, and all preparations should be made to perform a laparotomy if delivery *per vias naturales* proves impossible.

HUMAN TUBERCULOSIS CONSIDERED FROM SEVERAL VIEWPOINTS.*

By George Homan, M. D., St. Louis.

Tuberculosis in its most common form of manifestation, which is pulmonary consumption, is such a nearly universal infection, is so fully known to mankind in almost every climate and human condition, that its literature alone has reached proportions far beyond the reasonable ability of any one person to read or adequately digest; but, nevertheless, a sketch will be attempted concerning some of the principal points of view from which it has been considered.

Probably the aspects that have received the widest attention and study may be grouped under four headings, namely, Sanitation, Statistics, Sentiment, and Statesmanship, and these main topics will be dealt with, rather briefly it is true, not only in their relation to the disease named, but also in their relation to each other.

Sanitation: In the public health language of to-day this word, in the strictest sense, means prevention—that is a watchful, unsparing, resolute, intelligent detection and destruction of every agent given off, directly or indirectly, from the body of a sick person that can cause disease in another. In the case of tuberculosis this applies chiefly to the spittings of consumptives, and inasmuch as this malady is ordinarily of chronic duration this task of vigilant watchfulness must be maintained by physician, nurse, friends, health officer, and the patient through months certainly and, possibly, years of time.

As has just been stated, such sanitation must be the joint outcome of the efforts of all these parties in order that it shall be most effective for public protection. Under a law that would require notification, by the attending physician or affected family, to the local health officials of the presence of a case of disease appropriate regulations would be applied, and which would call for the sincere coöperation of the parties in interest, alike for the defence of the pubilc against harmful influences proceeding from the sick room, and also for the protection of the convalescing patient against reinfection of himself or herself by undestroyed germs in the expectorated matter or other discharges.

*Delivered before the Medical Society of City Hospital Alumni, December 2, 1909, St. Louis.

Note.—This address was intended for the annual convention of the State Board of Charities and Correction, held at Farmington, Mo., last November. As the contemplated audience would be composed of the general public, all technical medical terms were purposely avoided, the sociology and economics of tuberculosis being emphasized, rather than pathology, diagnosis, etc. Circumstances prevented its delivery as intended.

In order to secure legislation adequate to cope with such dangers, and to secure its enforcement, the teaching of the public is a work of necessity, and this is usually begun by the pioneer efforts of medical men who point out the risks of promiscuous spitting, poor ventilation, and the like; and, ordinarily, such instruction is supported and supplemented by ministers, teachers, and other leaders until a state of public opinion is reached which will demand that nothing in reason shall be left undone to protect the people against either home-grown or imported infection.

Thus when a clear perception of the danger with regard to any certain disease is reached the way is opened for ready acquiescence in measures of sanitation aimed at other disease-breeding agents and conditions; as, for example, those that foster typhoid fever, malaria, dysentery and the like, the sum-total of such coöperative work developing a distinct stiffening and toning-up of a community's moral and physical fibre, betokening an actually heightened power of resistance toward disease in general, together with a courage and self-reliance growing out of sound knowledge and right understanding of dangers to be faced, and the measures to be employed for their defeat.

This would mean that science, skill and sense would leave no room for demoralization, fear, or panic and that pestilential threatenings would be met with the same cool, firm judgment that should distinguish trained, orderly minds when other forms of calamity and peril are confronted.

Thus, then, the word sanitation epitomizes and is the expressed measure of all the forces and influences—moral, intellectual and physical—that can be summoned forth by the power of man to make war on disease; and to prove that public education is a prime factor in this question it is only necessary to point to the fact that however perfect a sanitary law may be it will nevertheless stand a dead letter unless the live wit and perception of the people comprehend its purposes, and demand its strict impartial enforcement against given conditions unfavorable to health.

When called before a tribunal fitted to judge in such matters, and the reason for its being is demanded, Sanitation can stand upright and with calmness and confidence make this answer: "I know the causes and conditions from which come tuberculosis, cholera, rabies, malaria, yellow fever, hookworm disease, meningeal fever, sleeping sickness, diphtheria, bubonic plague, leprosy, and still others. Give to me, therefore, the law and the money and I will strangle outbreaks of these diseases in their cradle."

On a medal struck by the English people to commemorate their deliverance from the Spanish Armada, and all that it meant, is this simple but striking legend: "His winds blew and they were not." So with respect to foes of our own, coming from former Spanish dominions, it may be said, "His work was done and they are not" to mark the conquest by our medical fellow countrymen of yellow fever and malaria in Cuba and Panama.

Statistics: In no way other than by carefully gathered and kept records of births, sickness and deaths, with the causes of the latter and other pertinent data made plain, can any State or community take account of its vital resources and liabilities, and learn the truth that is of fundamental importance to its own existence and well-being; and, sad to say, until this year there were no means in Missouri by which, as a State, such an accounting could be had. It was only possible to learn such facts with respect to certain localities, namely, the larger cities, which by local ordinance require the reporting and recording of vital, morbidity, and mortality figures, thus affording a datum-line from which statistical measurements and conclusions respecting population health, fecundity, sanity, longevity, etc., could be computed.

But, from the local data thus gathered taken in connection with Federal census figures, and vital statistics collected under State laws elsewhere, and in which conditions of population are substantially the same as in Missouri, it is possible to approximate the truth with respect to our own State, and make estimates in cold figures of our losses year by year from tuberculosis.

And let it be said here that the delinquency on the part of a State which fails strictly to require the recording of every birth and death tells against the intelligence and good name of its government. To illustrate, in the cold-blooded calculations of life insurance actuaries such an omission weighs heavily, as where the full truth with respect to health conditions is not officially discoverable the doubt is resolved against the commonwealth, and higher rates are assessed and must be paid accordingly.

Let a glance, therefore, be taken at the estimates of losses from the single cause mentioned, and which are deduced from sources just referred to as affording the only safe data for the purpose. Such a story may be to many persons like a thrice-told tale but its constant iteration, told in passionless facts and figures, seems necessary to make an impression on that variety of the mathematical human mind called business intelligence, and which scorns anything so soft as sentiment.

For example, it is known that in St. Louis more than one thousand persons die every year from tuberculosis, most of them being under middle age and in the prime of their productive usefulness to themselves and the public; and further, that for everyone thus dead there are no fewer than five persons sick with that disease and tending toward the same destination. This local ratio of disease and death, when extended properly and proportionately to the whole population of Missouri shows an annual death list of upwards of five thousand, with probably five times that many persons similarly diseased.

Your own pencils will show, if you are statistically inclined, that the dead bodies thus annually produced, if laid side by side, would extend nearly one and one-half miles—a causeway of death corduroyed by human corpses at a net cost or economic loss to the State, under its own valuation of a human life, of more than twenty million dollars.

Not to speak either of the heartlessness or stupidity of such a showing, when the test of widest medical experience has proved it to be both needless and improvident, would it not be a good business stroke for the State to enact laws and furnish funds providing for a searching survey of its own vital and sanitary situation, to the end that it may accurately measure its own danger, destroy the conditions that favor such vital and economic waste, and let the world know the facts concerning its own hygienic housekeeping?

Is it not a stinging indictment of a hollow civilization and doubtful Christianity that millions on millions of public money are poured out by this nation because of the fantastic conjurings of a mad militarism, when but a tithe of such profligate squanderings would save so many thousands of lives, and give physical happiness to so very many thousands more! Think what answer could be made to the question, asked perhaps by some visitor from another world curious to know something of our manners and ways: "And is this the best wisdom that the human race can show?"

Sentiment: As before suggested many self-wise persons are unwilling to take account of sentiment, declaring that it can have no proper place in every-day affairs, being oblivious to the fact of its power over human minds to an extent which justifies the saying that he who writes the songs of the people need have no care who makes their laws. Every sentiment that grows out of human thought or temperament must acknowledge some relationship to this serious subject.

The poet's apostrophe to death denotes this:

> "Come in Consumption's ghastly form * * *
> And thou art terrible; the tear,
> The groan, the knell, the pall, the bier,
> And all we know, or dream, or fear"

are more or less bound up in the story of this infection, and its ravages amongst mankind.

Pathos and tragedy have unfailingly attended the prolonged march of successive generations of consumptives to the grave. Good and bad, high and low, bond and free, Dives and Lazarus, have alike been constrained by man-made conditions to join this procession, and no other than a flickering gleam has lighted the sombre picture until within the present generation, but now the sun is risen and it has been convincingly shown that there is reason for the assured hopefulness with respect to those thus diseased; that the sentiments of dread and despair once almost universally felt are without good grounds provided the teachings of sane judgment and sound reason are heeded.

Sentiment aside, the fact is that as man has sown so has he reaped, in this as well as other respects, the punishment often reaching to later generations, for only in this way, perhaps, can the blind and selfish greed of man be brought to a proper sense of his offending against the laws

of nature respecting health—his Frankenstein has turned upon him to destroy.

To rob one's brother of his rightful share of earth, air, light, and heaven, is to invite self-destruction through the evil conditions to which that brother is thus reduced; for, as oppressor and oppressed must needs breathe a common air, so an even-handed justice ordains that an atmosphere charged with floating infection may prove more deadly to Dives and his friends than to Lazarus and his like—who may, perchance, through hazardous experience have gained a degree of immunity thereto.

Statesmanship: Last but not least come all of those organized civic forces of the State whose appointed aim is the public service and general welfare—those in whose hands lie the taxing power and the spending of public funds.

Statesmanship is defined as the quality of being skilled in the art of government, comprising those who have broad sagacious views and distinguished ability in dealing with questions arising in public affairs—in short, the art or skill of a Statesman.

It has been said that he who causes two blades of grass to grow where only one grew before is a public benefactor, and this is an economic truth simply stated, for that particular form of subsistence is doubled—which means two heads of wheat, two loaves of bread, two dollars instead of one—briefly so much added wealth and comfort to the world, and statesmanship recognizes the obligation thus conferred.

But how about him who causes two human lives to develop in health and vigor where but one survived before! Has statesmanship recognized in any tangible manner in these days the economic gain and public value of such an achievement? If those thus subject to sacrifice were chattels under the law, as was the case here fifty years ago, there can be no doubt as to the answer made; but, unhappily, now the reply must be No, for human life has been, and is yet, held so cheaply in a general sense that little more than conventional regret is expressed over the wastage by preventable disease of those in their prime, and whose expectation of life reasonably should not be below the Scriptural limit.

Usually it is only when the grief of a personal loss is felt that concern is expressed by the man of affairs, who before knew little and cared less, respecting the conditions that give headway to tuberculosis.

The experience of an active health official in a neighboring State will illustrate this point. He was trying to raise funds to make a fight against consumption and called on a rich man, a business and social leader in his own city. After some explanation he was given a small contribution for that purpose. Three years later this man called on the official and reminded him of the former meeting, saying among other things that he had given the money to get rid of him as he had an engagement, and added: "My daughter is dead of tuberculosis. I understand the subject now. I want to contribute. Furthermore I regret that the infirmities of age make it impossible for me to give my services."

An incident such as this is not uncommon—men of business judgment, prudence, and foresight are dead as it were to the danger of attacks by a subtle foe, the hour or place of which can never be certainly known. You or I, you and I, here or elsewhere, may be the next to yield to this insidious power, so that here is a field, indeed, for the statesman's skill involving no abstract considerations that concern a few only but a thing that may come near to or touch sooner or later the purse, the health, the life of every person in the State.

To summarize: What is a fair conclusion of this whole matter?

If the case has been clearly and honestly stated the answer is plainly this:

(1) That in thoroughgoing *Sanitation,* rightly supported and directed, is to be found the weapons and resources with which a now pandemic infection may be met and overthrown.

(2) That *Statistics,* properly collected and kept, afford the only true measure of health or disease in a given body of people, and constitute an index showing where sanitation is needed, and how it should be applied.

(3) That *Sentiment,* the sense of loss or fear of loss in the individual and public, is often the compelling cause or force that moves a heedless or ignorant people to better things in public health affairs.

(4) That *Statesmanship,* rightly directed, possesses the promise and power of fundamental changes in economic directions through legislation, and in the supplying of funds for overcoming disease. These possibilities are now only dimly seen but when realized in public policy and law will foreshow the virtual extinction of tuberculosis, as a population infection, and which now looms as the appointed destroyer of a notable percentage of the civilized world's human inhabitants.

THE STATE LABORATORY AS A SAFEGUARD TO THE PUBLIC HEALTH.*

By GUTHRIE McCONNELL, M. D., St. Louis, Mo.

Until comparatively recent years the field of medicine had not reached the point where it was impossible, on account of its magnitude, for one man thoroughly to know the subject. Physicians in the past were well acquainted not only with their profession but were well versed also in many of the allied subjects, such as zoölogy, botany, chemistry, etc. This condition has, however, greatly changed as a result of the never ceasing work of investigation that is going on the world over.

*Read in the Medical Section, Fifty-second Annual Meeting, Missouri State Medical Association, Jefferson City, May, 1900.

As the extent of medical information increased it became necessary for the physician to direct his efforts along a narrower field and to omit to a large degree the collateral branches. The science of medicine continued to grow until one man could no longer deal authoritatively with all its manifestations. Consequently the era of specialists came, men devoting their time to one or several branches of the art, principally as surgeons or internists. Finally these were again split up into numerous subdivisions, as occulists, dermatologists, and a dozen others.

Up to this time the laboratory worker had been a clinician who incidentally did what he could along the line of research, but the men who devoted their time to this subject could be easily counted. As pathology, physiology and chemistry revealed new fields in consequence of the aggregate studies throughout the world, a new class of men took an important position. They were those who devoted their entire time to research work, it being soon discovered that one individual could not be an active clinician and at the same time devote his attentions to his laboratory, research being a jealous mistress.

The general practitioners who graduated twenty years ago or more, did not have laboratory facilities for the simple reason that in those days there was little work of that sort in existence. The successful physician was the one who by his large clinical experience and accurate observation was best able to make correct diagnoses and to treat successfully his patients. The clinical thermometer in the earlier days was unknown and the severity of the fever had to be estimated from the sensations given to the investigating hand.

As time went on various laboratory methods were passed on to the clinician. The schools increased their facilities for training as the knowledge of such procedures became more and more extensive. This meant that clinical instruction was being broadened by the introduction of methods, not so much to supplant the older style of teaching as to aid it.

For a long time this new idol was bowed down to by the majority and many sins were committed in its name. The older men, who had acquired their skill from long association with the sick, saw themselves being thrust down by the recent graduate who thought that, because he had seen tubercle bacilli through a microscope, he was a true scientist. In many instances the new comer was, however, able to prove his superiority along definite paths and the clinical experience was relegated to the background in the face of modern laboratory methods. The man with the laboratory training reigned supreme for some time but he was found to be not omniscient. He would send out reports from his laboratory and in the course of time they would be proved to be incorrect. It was not the result of deficiencies in the methods but in the men who had not had the experience required in order that proper deductions and correct conclusions could be drawn.

As conditions now are there is a much saner and safer balance between the clinician and the laboratory worker. The latter is no longer so

sure of his findings, and the former is now better able properly to value the reports given him. The necessity is now appreciated of the great importance of correlating the clinical manifestations with the results of the laboratory investigations. The man working with the test tube and the microscope has realized the value of having on review as many clinical data as possible. He no longer gives an off-hand report, feeling that nothing further can be said on the subject. If he is wise he will recognize times when his proper course will be to say that he does not know; he will no longer make diagnoses and outline treatment after making a laboratory examination. It is this tendency toward making a diagnosis that has led, to some extent, to a feeling of mistrust being manifested by the clinician. The fault however does not lie entirely with the laboratory worker. He is frequently given a specimen for examination and expected to report upon it without having the advantage of any clinical findings. When they are asked for he is not infrequently rebuffed and told that the specimen was sent for him to diagnose. In consequence men have greatly exceeded their duties and have attempted to diagnose the case and even to prescribe a method of treatment. Such a course is often very foolish and one liable to cause trouble. The laboratory man should realize that the most he should do is to make a plain statement of facts. He should say that the tissue is carcinomatous, that the urine contains sugar, that the hemaglobin is diminished. He should not say that an operation in the first instance is the only treatment, that the patient has diabetes because sugar is present in the urine, or that the individual is suffering from a secondary anemia. He might be right in each case, but again he might be wrong on all three counts.

It is the duty of the practicing physician, on the other hand, to train himself so that he can put the proper interpretation upon the findings of the laboratory. If the case proves to be cancer, then let him follow out the course of treatment that is proper for his patient; if the clinical symptoms point to diabetes, then the finding of sugar in the urine will determine the diagnosis.

It is here that the clinician and the laboratory expert should come in closer relationship. If the man of science is also one who has had a large clinical experience, he will be able to gather much information by either seeing the patient or by talking over the case with the attending physician. At the same time the physician acquires a better understanding of the limitations of the laboratory. Although neither one can become equally expert in both branches yet they both can appreciate the value of the work done by the other. From a practical standpoint the busy practitioner can gain more by the employment of laboratory methods than can the research worker by giving time to clinical investigations, although a large part of experimental medicine is based upon the study of diseased persons.

The point that seems the most important at present is the stimulation of a proper use of laboratory methods by those who have not had the

training necessary, or who, on account of active practice, have not the time to employ methods well known to them. The up-to-date physician finds that there are many ways in which the laboratory can assist him. To enumerate all of them would take pages, yet there are some that possibly stand foremost, particularly in regard to the health of the community. Given a case of continued fever the question arises as to whether or not it is typhoid. A drop of blood sent to the laboratory may be the means of determining the diagnosis. The examination of an exudate from the throat may frequently be the cause of preventing an epidemic of diphtheria. The finding of tubercle bacilli in the sputum enables the physician to take the proper precautions toward the protection of other members of the household as well as the community at large. In addition to these may be mentioned the examination of blood for the malarial organism, of urine for sugar or albumin. The presence of intestinal parasites, of bacteria in various lesions, may be disclosed by laboratory methods and the proper diagnosis made. Examinations of gastric contents, of specimens of milk and of water, all of these can be done with comparative ease in the laboratory. The determination of the nature of a tumor will frequently decide the course of treatment, whether or not the patient shall be subjected to an extensive operation. In all these methods there must however be one point emphasized greatly and that is that they are of main value only when positive in character. Not finding tubercle bacilli in a single specimen of sputum does not necessarily indicate a lack of infection. The patient may not have sent proper material or it may not have been obtained under suitable conditions. The absence of the malarial plasmodium may mean that the blood was not procured at the best time. A physician would not be justified in saying that a sore on the genitalia was not a chancre on account of his inability to find the treponema pallidum. The lack of agglutination of a culture of typhoid bacilli by the serum from a patient would not be sufficient to throw out the diagnosis of typhoid fever.

The clinician in the absence of positive laboratory findings should have the courage to make his diagnosis from what he can observe at the bedside. The negative laboratory report should frequently be considered in the light of the lack of a symptom. On the other hand a positive result will frequently be sufficient to overthrow all of the clinical signs. The examination of the blood may show conclusively that the case is one of malaria and not typhoid, a tumor thought benign may prove malignant, and so on.

Although the value of laboratory examinations may be thoroughly appreciated yet there may be, and frequently are, very satisfactory reasons for not employing them. In the first place there is the necessity of having proper laboratory equipment. Such an outfit, even in its simplest form, is expensive and not many men, excepting in the larger cities, have a practice that justifies the expenditure. In addition to the laboratory it is essential that there shall be some one in charge who has had an ade-

quate training. The usual practitioner has not had the proper instruction and consequently when he does make some examination he does not feel sufficiently sure of himself to put much reliance upon his results.

In many small communities there is some man, usually a comparatively recent graduate, who, while waiting for his practice to increase, devotes his time to making examinations for his fellow physicians. As his patients increase in number his laboratory work is necessarily neglected and the physicians, and the community as well, suffer unless some other man has appeared to carry on the work. Such a method, although better than none, is not very satisfactory. As a result of these interruptions there have been formed in various cities large private laboratories where the desired examinations can be undertaken. A great drawback to this is the expense. The work requires special training and special apparatus and consequently prices that may seem high have to be charged. This however means that a very large portion of a physician's practice has to get along as well as possible without having the latest methods of science employed in its behalf. This does not seem right either to the individual in question nor to the community. That the public should be exposed to an epidemic of typhoid fever or of diphtheria because a patient is unable to pay for a Widal test or for an examination of a culture from a throat, is absurd. Such matters should be attended to by the larger aggregation of citizens.

The first to recognize this responsibility to the community were the larger cities. It was soon realized that it was much cheaper to spend money to keep the citizens well than to attempt to cure them after they became sick. One epidemic of typhoid or diphtheria or particularly smallpox, would cause a loss to the city of an amount much greater than would be required to conduct an efficient health department. In consequence, one of the early acts of the health boards was the establishment of city laboratories where investigations of conditions bearing upon the city's health could be conducted. The physicians were urged to have examinations made of sputum from suspected tuberculous patients, of cultures from inflamed throats or of blood when typhoid fever was suspected. In this way a careful watch could be kept over the people's health and proper methods be employed to safeguard the community, the expense of such an institution being borne by the city from money obtained by taxation. Such employment of the city's funds is fully warranted by the saving that it brought about, not only of money but of lives.

Such a method as the above can be satisfactorily maintained in the large and concentrated settlements, but it becomes a much more difficult matter when the sparsely settled areas are taken into consideration. They do not have the money to expend in paying a sufficient sum to equip a laboratory and to pay a man to take charge, yet their lives are just as valuable to the State as the lives of those who live in cities.

In a number of States this matter has been solved to a large extent

by the establishment of county laboratories. Such, however, seem to occupy a position between the free laboratory of the city and those conducted by private individuals. The county supplies what money it can and the patients pay what they are able for the examination undertaken. This plan works well in a county that contains many people amongst whom are physicians who not only themselves recognize the value of such methods, but who are willing to work for the advancement of medical science. If, however, the county is not thickly inhabited nor contains a leaven of intelligent physicians, such a laboratory becomes an impossibility. There is then nothing for the physician to do but either to send his specimens to a private laboratory or to neglect that important side of his profession. He cannot send his specimens to a city laboratory as the opportunities there are of necessity restricted to its own inhabitants. They are the ones paying the taxes and consequently those who reap the advantages. If there is no county laboratory the physician is then helpless unless the State comes to his aid.

A number of the States have appreciated the importance of this and their various legislatures have appropriated the money necessary to build and equip laboratories and to pay the salaries required to obtain competent men. In these States the county practitioner is enabled to carry on his work to the best advantage to his patients, to himself and to the community. When in doubt concerning some case he can bring to his aid the advantages that are placed at his disposal. All that is required is that he shall send the material to the laboratory in such a condition that it can be examined to the greatest advantage. The greater the use made of laboratories the greater will be the realization by the medical profssion of the value of such examinations. The more familiar the physician becomes with laboratory findings the better able will he be properly to interpret and apply the knowledge so obtained. In due time he will wonder how he ever got along without employing such assistance and he will find that a desire for accurate diagnosis will soon arise. The doctor will no longer be willing to wait till his patient dies or recovers before deciding whether or not a given tumor were malignant. Cases of "typhoid-malaria" will disappear and the patient will be found to be suffering from either typhoid or malaria, according to whether the Widal reaction is positive or the plasmodium is found in the blood.

The control of the infectious diseases, such as tuberculosis, diphtheria, typhoid fever and smallpox, is by no means a matter of sentiment, it is one of great economic importance. It is being more and more widely recognized that sickness is a source of great monetary loss to the public as well as to the individual, not to mention the suffering that it may inflict upon those dependant upon the sick person. When one takes into consideration the value of the lives lost each year by preventable diseases, and tuberculosis, diphtheria and typhoid fever certainly belong to that class, it can be readily seen that a trifle of that amount if expended for better control of the state health would result in a tre-

mendous saving. Various courts have placed an average value of five thousand dollars on a person's life and when one multiplies the number of deaths from the above three diseases the figures obtained are appaling. In 1900 there were in Missouri 3,459 deaths from consumption, 1,682 from typhoid fever and 1,075 from diphtheria, all due to conditions that need not exist.

In a paper read by Professor Wm. T. Sedgewick some months ago, he shows that Mr. Allen Hazen's theorem, that for every death from typhoid fever avoided by the purification of a polluted water supply, two or three deaths from other causes are avoided, is not only correct but possibly conservative. A hundred deaths from typhoid fever in a year would be a loss of a half million dollars to the community. Then according to Hazen's theory two or three hundred deaths from other causes attributable to the conditions that also bring about typhoid fever might have been avoided. Consequently it is a much wiser plan to prevent people becoming sick that it is to cure them afterwards, even if that were always possible.

It would seem therefore that there should be no hesitation on the part of the State to furnish a proper laboratory. One that is large enough and sufficiently well equipped to allow not only that the routine duties should be carried out to the best advantage, but to permit, as well, the undertaking of investigative work. The great advancement of medical knowledge is largely the result of experimental work carried on in the laboratories. Before new methods can be employed by the profession at large, they must be shown to be of value, but at the same time harmless to the individual. Much of the information has to be acquired from the clinician before the laboratory results can be verified. Consequently the closer the relation between the two classes of workers the better will it be for the science of medicine.

A State laboratory should therefore be a center for the acquiring and dissemination of medical knowledge. From it should come an inspiration for the rest of the State. The men employed should be those of enthusiasm capable of carrying on the work to the greatest good of all concerned. In order that this might be accomplished it would be best that the laboratory be established in a locality that is an active medical center, so that its work can be seen and felt by those directly concerned in the teaching of medicine. The constant contact with other men doing similar work provides a stimulus that is unequalled by anything else. The spirit of rivalry and emulation, when not carried to an excess, has done more for the advance of science than any other factor.

Another important reason for having such a laboratory in a large medical center is that it is at such a place that many students of medicine come to take post-graduate work, to examine into the methods of teaching, or to view the work of other men. Each one of these visitors is an unknown factor in the spreading of information in his own community. He goes to the State laboratory, meets active workers, learns

new methods or obtains the relative value of old ones. The greater the number of such missionaries the greater the progress of medicine in the State. As the advance of medical knowledge means an increase in the health and wealth of the community, any reasonable method to bring about that end is certainly justifiable. Of such methods there seems to be none so valuable or so needed as a well equipped state laboratory, well equipped not only in apparatus but in men.

DISCUSSION.

Dr. I. J. Wolf, Kansas City: The establishment of the clinical laboratory has been one of the features of modern medicine and surgery, and while it cannot be denied that the State laboratory which is accessible to every one, especially those unable to pay, is absolutely a necessity, I make a plea for every physician to be his own laboratory man. The equipment of a clinical laboratory does not cost more than one hundred dollars, nor does it take up more room in an office than a desk; with such an equipment you can make all the clinical examinations you want. In that way you can be sure, provided you know your business, that the thing is done right. If another man does it, you have to depend upon his reliability, and I have had unreliable reports from the most capable men. It is possible to make the Widal test, etc., with such an equipment as I have mentioned. I used to make blood and sputum examinations, cultures, etc., and I still make all my gastric examinations, and you cannot tell from the looks of my office that any laboratory work is going on. I do not pretend to do scientific work, but I do good clinical work. I do think that every one should, for a time, say ten or fifteen years, do his own laboratory work so that he can appreciate the work done by others in the years to come. Nothing so keeps a man abreast of the times as clinical laboratory work. I once thought that I had made a discovery, but believe that after all it is not original with me, *i. e.,* instead of using the cultivating oven to cultivate diphtheria cultures, you can use the Thermos bottle very satisfactorily.

Dr. McConnell, in closing: It is, of course, much better if a man has the time and the ability to do his own laboratory work, and if he has done it a number of years he is much better fitted to appreciate it when it is done by some one else, and he can also more readily detect inaccuracies in the work of others. The routine clinical examinations are not expensive, but if you try to carry out any of those examinations in more extensive directions, you will find that the apparatus required is expensive, and the time is more than the busy practitioner can afford.

THE EARLY DIAGNOSIS AND THE SURGICAL TREATMENT OF CANCER OF THE STOMACH.*

By C. R. Dudley, M. D., Hannibal, Mo.

There is probably no disease whose early diagnosis is more important or more difficult than carcinoma of the stomach. That it is the most common of all forms of malignant disease, is the statement of Osler[1] before a recent medical meeting in England. According to Rodman[2], of Philadelphia, one-third of all cancers of the body originate in the stomach and that of these more than half arise from neglected gastric ulcers. Cancer of the stomach in so far as it depends on a chronic ulcer for its origin, is a preventable disease. It is probable that two-thirds of the whole number of cases may be so classed.

The frequency with which a chronic gastric ulcer takes on a malignant change, a condition in which the symptoms of ulcer have existed for a period of time and which continue to predominate for some time after the malignant growth begins, renders the diagnosis one of extreme difficulty. Even in those cases of gastric carcinoma that have not had their inception in a gastric ulcer, their diagnosis is one of marked difficulty before the tumor has reached a palpable size. Moynihan[3] expresses the opinion that there are no symptoms, and no signs, which either individually or collectively, permit of an assured diagnosis of cancer of the stomach in an early stage. This is a sweeping statement and one that is refuted by skilled internists whose diagnoses of incipient malignancy of the stomach are often brilliant. Moynihan further states that the chemical examination of stomach contents is of little or no value in so far as the early diagnosis of the stomach is concerned. In later cases when a possible diagnosis of malignancy has been made on the clinical evidence, the results of repeated chemical analyses of the stomach contents affords additional evidence of considerable value.

In investigating any gastric disorder, Mayo's advice is to study the history of the affection, ascertain the size and situation of the stomach, determine the existence and location of pain and tenderness, the presence of a tumor, and if the passage of food is interfered with. Moynihan says that the importance of a history of repeated attacks of indigestion, alike in their origin, course and termination cannot be exaggerated. Such attacks he claims are due to a chronic gastric ulcer, which at last becomes malignant.

The age at which cancer is most likely to appear is after 40 years,

*Read in the Surgical Section, Fifty-second Annual Meeting, Missouri State Medical Association, Jefferson City, May, 1909.

but age is less important for the diagnosis than hitherto assumed. Kuttner[4] claims that the wider his experience becomes the larger the number of youthful patients he discovers to have cancer, their youth preventing the correct diagnosis in many cases. A family history of cancer must also be considered.

The loss of muscular strength and weights are among the most constant early symptoms, but bear no definite proportion to the size and position of the growth. These symptoms are liable to occur earlier and to become more pronounced in cases of gastric and hepatic carcinoma than when the disease is situated elsewhere, though there are many exceptions[5]. This is due the destruction of the secreting surface of the stomach and interference with its function, with a resulting interference with nutrition, which is shown by the improvement in strength and weight that follows gastro-enterostomy, although the growth has not been disturbed. In other cases a toxemia derived from the growth must be held responsible, for the complete failure of nutrition and consequent loss of weight is quite out of proportion to the size of the growth and is in fact independent of its position.

A. Albu[6], of Berlin, lays stress upon the rapid decrease in the body weight in a few weeks or a month as significant of cancer of the stomach and as indicative of its beginning. This history is sometimes difficult to obtain unless the patients attention is called to it by close questioning.

The cachexia of cancer patients is of extreme variability and a most unsafe guide for diagnosis. It is usually extremely late in making its appearance and may be ignored in cases which surgical relief may be hoped for. It may be entirely absent until shortly before death. The blood picture shows usually a diminution of hemoglobin, a decrease in the number of red cells and a moderate leucocytosis with a high proportion of polynuclear corpuscles.

The enlargement of the supraclavicular glands is not a reliable sign, though much stress is laid upon this by many European observers. The enlargement of the glands at the attachment of the sterno-cleido-mastoid muscles, especially of the left side has been considered positive, but this may be due to inflammatory or other causes.

The most important early subjective symptoms in most cases of cancer of the stomach are loss of appetite, flatulency, general diffuse abdominal discomfort four or five hours after eating. Loss of appetite is an instructive symptom of cancer, especially when there is pronounced repugnance to meat.[7]

Vomiting is not an early symptom.[8] It may be present in a rapidly growing medullary carcinoma of the body of the stomach, or of a carcinomatous ulcer of the pylorus causing early obstruction.

Pain is not marked in early cases. It is a late symptom and therefore its absence is not to be taken as proof against the presence of cancer. In not a few cases it is absent during the entire course of the disease except in cancer of the pylorus. When present it is constant, heavy, dull

and boring in character and in contrast to the sharp, paroxysmal and periodic pain of ulcer.

Active hemorrhage occurs late as a rule except in a rapid malignant change of a simple ulcer. In all his experience Kuttner has known of only three cases in which profuse hematemesis was the initial symptom. Moynihan, on the other hand, states that acute cases are not seldom ushered in by an attack of severe hematemesis with or without melena. It is possible that such copious bleeding is dependent upon multiple hemorrhagic erosions. Soft encephaloid tumors ulcerate early and bleed early and freely. Densely growing schirrus cancers bleed late and in small amounts.

On local examination the cases may be divided into three groups.

(a) Those that at an early period are generally negative except in the cases than originate in gastric ulcers and give the symptoms of that disease.

(b) Those that at a little later period the local examination may reveal a simple atony and dilatation of the stomach before the growth is palpable. When dilatation of the stomach with stagnation of the food appears rather suddenly in a patient past 45 years whose previous health and habits have been good, the cause will generally be due to an obstruction in or about the pylorus and in the great majority of cases will be found to be carcinoma.

(c) Those with tumor. Most cases are first discovered when a tumor is present. The failure to detect a tumor of palpatable size may result from carelessness on the part of the examiner in neglecting to have a previous thorough evacuation of the bowels and allowing the stomach to become empty before making his examination, having the patient in different positions. A thick abdominal wall or a rigidity of the same may interfere. The latter is of itself of considerable diagnostic importance in that it is caused either from reflexes resulting from adhesions, or from the dread of causing pain and tenderness. This can be largely overcome by repeated daily examinations causing the abdominal muscles to relax. Palpation is usually more satisfactory in the morning than in the afternoon, when there are apt to be gases in the stomach and intestines. Failure to find the mass may be due to the character of the growth, the small nodular or diffuse infiltration forms being more difficult to feel than the more circumscribed scirrhus tumor.

A satisfactory method of palpating a small deep-seated gastric growth is to have the patient sit in bed, with his feet partially drawn up, leaning and resting his head on the examiner's shoulder, who sitting behind him reaches around the patient and palpates the abdomen from the front. The patient's muscles are thus relaxed and the natural descent of the abdominal organs often allows a gastric growth to drop downwards and forwards within touch. Hausmann's[9] method consists in pushing the organ back against the posterior abdominal wall and drawing the fingers downward during expiration following a deep in-

spiration, the procedure being aided by the rising of the stomach and colon during expiration. He claims to be able to palpate the normal pylorus in 18 per cent. of the patients examined.

Distension of the stomach with air may render the tumor more palpable except those situated upon the posterior surface and lesser curvature.

The results of chemical and microscopical examinations of the stomach contents for free hydrochloric acid, lactic acid, the presence of the Oppler-Boas bacillus, and of the stomach contents and feces for food remnants, bits of tumor and occult blood are collectively of great value in determining the character of the gastric affection at an early period. No one or no two symptoms or signs are characteristic, but from a combination of several a reasonable diagnosis can be made. One of the most important of these tests is the examination for occult hemorrhage. This gives a positive result both in ulcer and in cancer, but occurring in the latter in a much larger percentage of cases.[10] Before examining for occult blood the patient must be strictly prohibited from eating meat or flesh food for a period of three days before making the test and must be on an exclusive milk or vegetable diet in order to avoid errors. Either the benzidin or the aloin test may be used. A positive response indicates a probable destructive or ulcerating process, and repeated negative findings exclude cancer with almost absolute certainty.[11]

The diminution or absence of free hydrochloric acid is not of itself significant of gastric carcinoma, as this may occur in many conditions such, as gastritis, jaundice, pernicious anemia, atrophy of the glands of the stomach, tuberculosis, etc. It is diminished in old age, a fact that must be considered in examining for cancer of the stomach in individuals advanced in years. Diminution or absence of free HCl in the stomach occurs with carcinoma of other parts of the body. In 29 cases of carcinoma, not of the stomach, examined by Friedenwahl[12] in 19 there was either a marked diminution or an entire absence of free acid.

In the absence of free HCl we may find lactic acid. They are never present together as the smallest amount of free HCl prevents the formation of the latter. Associated with lactic acid is the Oppler-Boas bacillus, the growth of which is promoted by the blood from the site of the disease. Lack of hydrochloric acid and the presence of lactic acid are not specific for cancer, but if with the lack of hydrochloric and good motor functioning, no occult blood can be detected in the stomach content or feces on repeated examination, this is presumptive evidence against the probability of cancer in doubtful cases.[13]

By means of flouroscopic examinations of the stomach after the ingestion of bismuth, the size, position and contour of the stomach can be observed.

Because of the tendency of chronic gastric ulcer to undergo carcinomatous degeneration and also because of the established fact that surgery offers the only hope for a cure of chronic gastric ulcer itself,

operative measures should be undertaken early for the cure of both and for the prevention of carcinomatous change in ulcer.

In doubtful cases when the patient, of cancer age or even younger, has symptoms of chronic dyspepsia, steady loss of weight, together with evidence of lack of motility of the stomach and a condition of dilatation, one should resort to exploratory laparotomy in order to definitely ascertain the condition existing. The mortality from this procedure is so small that it can scarcely be considered in view of the knowledge to be derived from it, in guiding the surgeon to such further operative measures as may be indicated. Moynihan[14] advises surgical treatment in all cases of stomach disorder in which there is obstruction, stasis or tumor, and in all cases of chronic ulcer. In this way early cases of carcinoma will be found and radical treatment will be possible. In the larger proportion of cases this step is deferred too long.

F. Goldschwend,[15] of Linz, states that in all cases of carcinoma of the stomach when the classical symptoms of tumor, cachexia, and coffee-ground vomit are present, the case is already inoperable, and also those cases, often prove to be inoperable, which, after a careful examination as to its size, motility, contents, etc., without palpable tumor, cachexia, or occult hemorrhage, are diagnosed carcinoma.

In spite of the efforts at early diagnosis we have not progressed very far. Every experienced diagnostician is compelled to admit that in many cases the diagnosis of beginning carcinoma the stomach must be guessed at before operation and not a few of them after the exploratory incision has been made. Osler[16] says that for a surgeon to be successful in stomach work he must be a good pathologist and able to distinguish between ulcer and carcinoma when the abdomen is opened, and even able to make a shrewd guess at ulcus carcinomatosus in its incipiency. He must be a deft and rapid operator with good technique.

The character of the operation to be performed will depend upon the condition when the abdomen has been opened.

If a chronic ulcer is found the surgeon must decide whether to excise it, to infold it, or to provide only for better drainage and a freer outlet for the stomach by a gastro-jejunostomy and leave the rest to nature. Because of the great tendency to malignancy all chronic ulcers of this organ should be removed either by local excision or gastrectomy.

If a malignant growth is found a radical operation should be done if the tumor is not too extensive. Carcinomas which have caused symptoms for a considerable time before operation often give better permanent results than those which necessitate operation early, the latter generally belong to the very malignant, rapidly growing cancers. A pylorectomy or a resection of the stomach should be made after the Mayo method, and gastro-enterostomy should be done.

If the carcinoma is too far advanced for a radical operation and if it interferes with the emptying of the organ a posterior gastro-jejunostomy should be performed for the purpose of providing an outlet

for the stomach and to render the patient's declining days more comfortable. Janssen[17] quoting Stumpf, advises resection even as a palliative operation, as the results are better with this than from gastro-enterostomy alone, and the mortality of 9.5 per cent. is so low that it should not turn the scale against it.

Lund,[18] of Boston, corroborates the statement of Mayo that cancer of the stomach is as amenable to treatment as is cancer of the breast, and states that in operable cases, which means those cases in which the growth with a fair margin of stomach and the involved glands of stomach and the involved glands can be removed, the only treatment which gives any promise of relief is excision.

To the early diagnosis of incipient cancer of the stomach and to the recognized duty of the surgeon to prevent its growth in many cases by removing its selective location in a chronic ulcer will be due the lessening of the mortality of that almost hopeless disease. The surgical statistics in the next decennial period will show as favorably for cancer of the stomach as for this disease in other parts of the body.

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EXCISION OF THE RECTUM.

By W. H. Coffey, M. D., Kansas City, Mo.

It is not the object of this paper to give an exhaustive treatise on excision of the rectum. I merely wish to make a few remarks which I hope are practical regarding points which have come under my observation.

Some one has said that science moves slowly; that is because we get up such speed we run into the fence before we can stop; then time is lost in fixing it up.

Many are the operations and methods devised for the extirpation of the rectum in part or in toto, and even more of the bowel than the rectum is removed for the various diseased conditions of this part of our anatomy—more or less successfully. We have the Hegar's, Hacheneggs, the Van Heineck, the Kraske's, the Haumsell's, and many more are named. To my mind the one that is the most practical is the one performed by Haumsell, and that one, in my judgment, can be improved on by several very important modifications.

Instead of making an abdominal incision first, I would begin my dissection at the lower end of the bowel and would not use the abdominal incision unless I found it unavoidable. And again, I would not cut the sphincter muscles, as advised by him. In this day of rapid surgery, tissues are cut and lacerated without any thought, as it were, of their value to the economy. However, we are coming to know more and more about the intricate and important structure of the pelvic floor, the superficial and deep fascia, also Colles fascia transverse perinei-muscles, superficial and deep layers of the triangular ligaments. The great sacro-sciatic ligament, the levator ani muscle all have an important function to perform but chief among them all are the internal and external sphincters of the anus.

It is a serious thing when we disturb too much the tracts of glandular secretions, the vasomotor tracts of life-giving power which are under the control of the sympathetic nerves so closely allied with the so-called petric brain. These nerves we have in large numbers in this region, as well as nerves from the cerebro-spinal system. Murphy, in speaking of this operation on the female, advises splitting up the anterior vaginal wall, slitting the body of the perineum down through the sphincter ani muscles reaching the rectum anteriorly. In the hands of an expert operator like Murphy, that might do, but I prefer to do it in a more simple and to me a safer way.

I contend that it is just as feasible and just as easy to do an anal rectomy as it is to do a vaginal hysterectomy. Here nature has given

us a natural opening through which, when properly dilated, we can deliver any ordinary size growth without cutting a muscle or nerve of any great importance.

The only excuse I have to offer for making a few observations and of reporting this case (if I have any excuse at all) is that the time has come when the general surgeon must quit mutilating the pelvic floor.

The case I wish to report is one in which a general surgeon, while doing a proctotectomy, unfortunately tore an opening in the anterior wall of the rectum. An attempt was made to close the opening but was given up as a bad job as the urine, escaping over the parts, would not allow them to heal. I was called and after careful examination made an incision around the whole circumference of the anus at the junction of the skin and the mucus membrane, having first put the sphincters as much at rest as possible by a thorough divulsion, and proceeded, without much difficulty, in dissecting the bowel loose. Hugging closely all the while the external coat of the gut, thereby avoiding the large vessels, keeping all the time the index finger of the left hand in the bowel and doing my dissection over it, using it as a guide, and with slight traction on the bowel as I proceeded with my dry dissection, until I came to the upper border of the wound, the diseased gut was excised and the healthy end anchored with silk sutures to my first incision at Hilton's white line.

The other two cases were those of stricture, the highest up the bowel being 3½ inches. One was the result of traumatism from child-birth. The other I thought was syphilitic but would not give way under the usual anti-syphilitic treatment. Both of these cases were operated upon in a manner as already described.

In conclusion I want to emphasize the fact that through the orifice of the anus we can with careful manipulation of the parts do any surgical operation necessary to be done on the rectum without cutting the sphincter muscles.

224 Bryant Building.

DISCUSSION.

Dr. E. H. Thrailkill, Kansas City: I am glad to learn that Kraske has abandoned the operation he devised and recommended for the removal of growths in the rectum.

I usually employ excision of rectal growths per anal route, provided they are movable and other organs or glands are not involved.

In some cases it is impossible to deliver a growth per anal route. In such cases the muscles may be divided back to the coccyx and no harm arise therefrom, as the incision is parallel with the muscle fibers. With this procedure one can remove high-lyng growths, provded there exists a long meso-colon.

Recently I read, in one of the Eastern journals that this operation was attempted and, owing to a short meso-colon, an abdomino-anal operation had to be resorted to.

Fortunately for us, malignant growths seldom come as low as the sphincters, thus leaving intact the external sphincter and sphincteric nerves. As good results can be obtained here as in other fields, if the same degree of antiseptic precautions be observed.

OVARIAN TUMOR COMPLICATING PREGNANCY WITH RECOVERY AFTER OPERATION.*

By Davis Forster, M. D., of St. Louis.

Cesarean section is at present a popular operation and hospital workers are constantly on the look-out for promising cases. However, it may be that the pendulum will swing too far and we will find a violation of the edict of the least danger and the greatest good to both mother and child.

Occurring synonymously with the case herein reported, is one by Dr. Keyes, of Chicago, alike in pathology except that the case came into hospital in labor and was treated by Cesarean section with good results to the mother but with loss of child.

His method of procedure was to open the abdomen, incise the uterus, deliver the child and placenta, close the uterine incision and then explore the pelvis for ovarian tumor which, having a slender pedicle, was ligated and easily removed.

The teaching at Johns Hopkins Hospital is, that ovarian tumors complicating pregnancy shall be removed by laparotomy as soon as the diagnosis is made.

The presence of an ovarian tumor is one of the most serious complications of pregnancy. It markedly increases the probability of abortion and frequently offers an insuperable obstacle to delivery at the time of labor. After a spontaneous labor its presence occasionally gives rise to disturbances during the puerperium. In a series of cases collected from literature, reported by McKerron, the maternal mortality was 30 per cent., and more than half the children were lost.

The dangers of gangrene from pressure on the tumor, or torsion of pedicle, constantly threatens the patient. The cyst may rupture and extrude its contents into the peritoneal cavity during spontaneous labor.

The presence of ovarian tumor complicating pregnancy often remains unrecognized; the condition having escaped observation in a majority of McKerron's cases.

Nothing but careful routine examinations of all pregnancy cases

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can safeguard against such errors. Any excessive enlargement of the abdomen or appearance of pressure symptoms, should call for repeated examinations, and in not a few cases tumor will be found occupying the pelvic cavity.

The failure of the presenting part to engage when the pelvis is known to be normal, suggests an obstructing mass. If the tumor does not occupy the pelvic cavity, the diagnosis is extremely difficult and the abdominal enlargement may be attributed to the presence of twin pregnancy, or hydramnios, and the true condition be not recognized until after labor.

At the Middlesex Hospital, the rule is: to close the abdomen after removal of tumor and leave birth of child to nature.

Hirst, of Philadelphia, advises the removal of tumor with supplementary Cesarean section, not being willing to subject the woman to the strain of labor so soon after a severe operation.

Williams advises strongly against emptying tumor through the vagina. But Edgar says: In cases in which the tumor remains in the pelvis it may cause either a partial or complete obstruction of the birth track. The under surface of the tumor may be made out by vaginal touch. If fluctuation cannot be recognized an exploratory puncture may be made.

History of Case. Mrs. Mary W., age 22, native of United States. Married. Was admitted to the St. Louis Maternity Hospital September 21, 1908. Date of expected labor, November 15, 1908. Reason for early admission, patient stated that two days before she had fallen down a flight of steps, since which time she had continuous severe pain in lower right side of abdomen, with nausea and a feeling of pressure. Her family history was negative. Father dead, mother, aged 58 years, had given birth to two children with easy labors; one sister nullipara.

Patient had whooping cough in childhood and scarlatina at age of 14 years, since which time she had had much pain in the right and left ovarian region. Menstruation began at age of fourteen with intervals of twenty-eight days, lasting a variable length of time, with much pain before, during and after flow.

Patient gave a history of two previous pregnancies, the first interrupted at six months, the cause given being a fall, and case was cared for by a midwife. Second at term (nine months and two weeks), accompanied by no nausea, some headache and much edema.

Labor was accompanied by tear of the perineum and cervix, which were not repaired by the midwife. She went through a normal puerperium, nursing the baby without breast complications.

She last menstruated on the ninth day of February, 1908, for one day, amount small, quickening occurred June 4, 1908, up to which time there had been no vomiting, no edema, but some headache.

Urinalysis, s. g. 1021. Reaction, acid. No sugar, no albumin; elimination of all salts practically normal. Physical examination September 26, 1908, show heart, spleen, liver and lungs, normal.

Breast full, nipples well formed, and secretions watery and cholesterin. Abdomen, oval, umbilicus, protruding, with fundus uteri 23 centimetres above the symphisis pubis.

Her pelvic measurements were: Anterior spine, 26 cm.; crests, 28 cm.; trocanters, 30 cm.; external conjugate, 16 cm.; true conjugate (which could be obtained by pushing up tumor mass), 11 cm.

The fetal movements were distinct, the fetal heart could be heard in the left lower quadrant with a rate of 144 per minute.

Vaginal examination showed perineum dilatable with a tear on the left side containing scar tissue. Vagina roomy, secretion white. Cervix long, torn bilaterally; external os open, internal os closed and cervical secretions normal.

The right examining finger was passed upward in the cul-de-sac of Douglas and to the right side came in contact with a round smooth body which was located against the pelvic bone and was caught below the body of the uterus. It was so situated that the child could not pass it during passage through the canal at birth. The mass was smooth, movable, tense, tender, and could be palpated bimanually by deep pressure.

The question arose as to whether it were a dislocated kidney, an abscess or an ovarian cyst. It seemed too large for a kidney, too sudden in appearance for an abscess and the signs of infection and inflammation were absent, so the conclusion was reached that it was an ovarian cyst, movable, which had become impacted during the fall down stairs and that the pressure of the uterus from above made the wall so tense as to prevent fluctuation.

The patient was placed in bed, carefully watched and examined daily; reposition was attempted in the knee chest position. After a number of consultations it was decided best to open into abdomen through vagina, examine and remove tumor.

On the seventh day after her admission to the hospital after the patient had been prepared in the usual manner and under ether anæsthesia, the incision was made in the posterior fornix of the vagina into the peritoneal cavity. Bleeding was very free, as might be expected with congestion incident to pregnancy.

The finger on entering came in contact with a smooth mass of tumor which was grasped and pulled down upon. Tumor was punctured with outflow of bloody fluid and some blood clots.

The mass of the collapsing tumor was grasped with a long clamp and pulled into the wound. A clamp was adjusted above the tumor, cutting off the blood supply. The mass was cut off and clamp left on for forty-eight hours. Wound was packed with iodoform gauze with rubber drainage tube to the vagina. The tube was left in four days, then wound packed with gauze strips until posterior vaginal wall healed.

It was necessary to catheterize patient for several days. Her highest temperature was 99.4°, and 100 her highest pulse rate. She soon re-

turned to normal, had but slight pain necessitating administration of ¼ gr. morphia on night of operation. Patient vomited several times; uterus showed absolutely no result of interference. Patient continued in normal health until November 15, 1908, when first stage of labor began at 6:00 p. m. Presentation was vertex position, right occipito anterior.

Membranes ruptured spontaneously and a female child weighing 7½ lbs. born at 1:30 a. m. November 16, 1908. Puerperium was normal. Patient was examined November 28th; no evidence of tumor on bimanual examination and patient and child were discharged in a healthy condition.

DISCUSSION.

Dr. Bradley, St. Louis: I want to emphasize the point about the difficulty of making the diagnosis. I remember one case that forcibly impressed upon my mind that difficulty. I examined a patient with Prof. Wortheim in Vienna, and his assistant, Dr. Weibel, and some other doctors in the clinic at the time, and different diagnoses were made as to the condition. The woman was 26 years of age and had never been known to have been pregnant before. Dr. Wortheim and his assistant made the diagnosis of ovarian cyst. Another assistant diagnosed it as pregnancy, and I confessed that I thought it was a fibroid; there were some other diagnoses made, but the majority thought it was an ovarian cyst. When the abdomen was opened, they found the patient about four months pregnant, and three fibroid tumors in the walls of the uterus. The walls of the uterus were exceptionally thin. Some of the uterus was drawn down in the cul-de-sac. The tumor which I felt, and which I thought was a fibroid, was on the right side. I overlooked the head of the child.

Dr. J. D. Griffith, Kansas City: I have operated a couple of times for ovarian cysts complicating pregnancy. I cannot say that I made a positive diagnosis to start with, but I knew there was something there besides the uterus, and we went in and found that it was an ovarian cyst.

I agree with Dr. Crossen, that we should disturb the uterus as little as possible. In both of the cases I refer to the uterus was practically undisturbed. I operated for fibroids in one case, by myomectomy, and the patient went on to term. I think after the third month, when the uterus has risen out of the pelvis, it is not so easily disturbed and emptied of its contents as it would be prior to that time.

Dr. Forster (in closing): I do not think I can add much to what has already been brought out. This does not come under the head of incarcerated uterus. The largest I have ever seen was three or four months. This fetus at eight months did not come under that classification, and I do not think Dr. Crossen meant it that way. In regard to the disturbance of the uterus, if you do not work on the cervix, you can manipulate the uterus a good deal. Any plastic work around the cervix will cause the uterus to empty itself.

REMARKS ON TUMORS OF THE PAROTID GLAND.

By Francis Reder, M. D., of St. Louis.

My reason for presenting this paper must be attributed to the refusal of a patient to have a tumor of the parotid gland removed, because the promise could not be made that no facial paralysis would result from the operative intervention.

When we consider what an interesting array of anatomical structures are centered about the parotid gland, it is very important that the strongest anatomical reasoning be exercised in case of disease where operative measures might be indicated.

An anatomical thought recalls to us that the parotid gland lies on the ramus of the lower jaw, passing deeply behind it, between it and the mastoid process. The external carotid artery, with its great terminal branches, together with the veins which accompany them, the facial nerve and its important divisions, with branches from the cervical plexus, are imbedded in it, while the internal carotid and internal jugular, the spinal accessory, glossopharyngeal and vagus nerves, lie close to its deep surface. The gland is inclosed, excepting its pharyngeal surface, in a strong fibrous sheath. Its duct, which is a resistant, fibrous tube lined with mucous membrane, opens within the cheek opposite the second molar tooth of the upper jaw. Cellular tissue and muscle lie over, or superficial to the parotid, so that it is firmly bound down and covered on its outer aspect. The deep or pharyngeal surface suffers a deficiency of a capsular investment. This has an important bearing on the direction taken by pus when found deeply within the gland and by cancerous growths in their extension. A tumor of the partoid gland may be of a simple or a malignant kind. I may state here that all growths of the parotid gland can be regarded with a strong suspicion, no matter what their character, the most innocent often harboring a feeble malignancy.

This has been explained on the ground that sarcomatous elements, together with glandular, fibrous, mucous and cartilaginous structures have been demonstrated in them. Such growths are known as the mixed parotid tumors. They are met with in both sexes, most frequently between the ages of 17 and 35 years. The presence of cartilage in a parotid tumor, a so-called chondroma, must be explained upon the principle advanced by Lücke and Cohnheim. The cartilage of the first bronchial arch lies at the site of the subsequently developed parotid and fetal cartilaginous structure is enclosed during the formation of the gland.

The common parotid tumor is perhaps the growth with which the surgeon is best acquainted. It is usually fibrous, or glandular for the

most part, but has mixed with it cartilaginous masses and often cysts. This tumor at times invites difficulty as to its differentiation from a diseased condition of the lymphatic glands lying over and in the parotid. A tumor of these lymphatics can be and has been mistaken for the organ itself, the extirpation giving the belief that the parotid gland was being excised.

A common parotid tumor can, by compressing the parotid gland more or less, occasion atrophy and almost total absorption, so that when it is removed a deceptive appearance is produced of the parotid having been excised. Simple parotid tumors are hard, deeply attached, but movable on careful manipulation. They may attain a large size. Their surface is irregular and usually well-rounded in appearance. The skin covering them is thin, but not adherent and not infrequently a network of veins covers the mass. These growths lie below, in front of and behind the ear, and grow slowly. Sometimes they remain stationary for years.

In exceptional cases the inoperability of such tumors is manifested by the firmness with which they are bound down by prolongations sent under the ramus of the lower jaw, filling in the space between the ankle of the jaw and the mastoid process. It is then when they involve the blood vessels and nerves of this important region, coming into relation with the styloid process and its muscles, with the internal as well as the external carotid, and even pressing upon the pharynx and projecting into the fauces.

As a rule, the common parotid tumor, when of ordinary size, has little or no effect upon the general health, and only in exceptional cases causes facial paralysis by pressure.

The tumors which infiltrate the gland substance, give the surgeon his greatest concern. They are the malignant growths and are usually spheroidal cell carcinomata. Clinically, in malignancy the evidence of the physical characteristics of the growth is so clearly portrayed at a comparatively early state, that a diagnosis can be made without the loss of valuable time. We have, for instance, the rapid growth of the tumor, hard or soft, ill-defined and early fixed, usually growing under the ear in persons at or after middle life. With this growth there is associated a pain that is often excruciating, flashing up to the temple and down the side of the neck.

In the rapid growth of a malignant tumor the skin becomes involved early. The virulent infiltration makes it coarse and dark colored, giving it a leathery appearance,—the "squirrhe en plaque" of the French. Its tendency is to spread towards the neck and the region of the mastoid process. This form of schirrus resembles the *cancer en cuirasse* of the mammary gland in all its clinical characteristics.

A different clinical picture can be found in the "squirrhe atrophique." Here we have a depression at the site of the carcinomatous growth, the skin being thrown into small folds which radiate toward the outer margin of this depression.

In the "squirrhe en plaque" the skin in time gives way, causing a broad-spreading, deep, characteristic, bleeding ulcer, with a hardened chain of glands and dilated veins, with facial paralysis and early embarrassment of deglutition and mastication.

In the "squirrhe atrophique," facial paralysis is an early sign and is caused by the massive contraction and compression of the connective tissue element at an early state of the malignant action.

The sarcoma of the parotid is a more common affection than the carcinoma. This is most likely caused by the sarcomatous elements that enter so freely into the formation of the so-called mixed parotid tumors, looked upon as innocent, but in reality feebly malignant, which later on present themselves as malignant growths. The differentiation between sarcoma and carcinoma must be made with the aid of the microscope to be acceptable as a positive diagnosis. As a rule, a sarcoma does not exert as much pressure, nor does it involve and destroy the skin as does a carcinoma. It may, however, show a more marked local malignancy, which accounts for the frequency with which such growths return after excision. Now I wish to speak of the excision of parotid tumors, the part of the disease which is of the greatest interest to the patient.

In venturing an opinion on a parotid growth, it is very necessary that the physical characteristics of the tumor be specifically determined, so that any future embarrassment may be spared the surgeon, should he decide to operate. In many cases the operation is not difficult, though the size and appearance of the tumor may cause it to appear very formidable. Mere size is no contraindication to an operation, for very often the bulk is due to the increase of the tumor being solely in an outward direction. It is when there are deep and irregular prolongations of the growth, when it grows within the capsule of the parotid and when the prolongations have formed close connections with the blood vessels and nerves behind and below the angle of the jaw, that no operation can be more difficult and dangerous.

Other conditions that will influence the judgment in determining for or against an operation are the mobility and circumscription of the growth; the possibility of inserting the fingers below it, as it were, raising it up; the freedom from pressure-effects on blood vessels and nerves; the healthy state of the skin and the lymphatic glands; the rate and direction of the tumor's increase, the age and state of health of the patient, and the possibility of removing the whole mass.

The removal of simple growths is usually readily accomplished without much damage to the facial nerve. It is very desirable that the greatest care be exercised when working in the neighborhood of this important structure. If by some unfortunate stroke of the knife or nip with the scissors, this nerve should be seriously injured, the unpleasant echo will continue to resound long after the tumor matter has been forgotten. Two conditions are really imperative in the removal of simple growths:

One, the capsule, should be completely removed with the tumor mass.

If the capsule cannot be removed with the growth, it is to be excised as thoroughly as is practicable with the least amount of injury to the gland substance proper. This is a procedure, however, which under the most careful dissection has in the majority of my cases given me considerable annoyance, on account of the fistulous condition created by wounding the minute ducts of the small lobules of the gland during the dissection. Usually from three weeks to three months, under careful attention and consoling utterances to the patient, is the time for such a fistulous condition to subside. For this reason, after the overlying parts have been freely divided down to the tumor, the dissection of the mass should be principally a gauze dissection, only the stronger attachments being severed close to the tumor with the scissors.

The other condition is that of preserving the facial nerve. It would seem better for the peace of the surgeon not to undertake the extirpation at all in an ordinary parotid tumor, should he feel doubtful as to the preservation of this important structure. No promises can be made and should not be made to the patient; it is eminently more satisfactory and safe to tell the patient in a very guarded manner what might and might not happen.

Malignant growths, on the other hand, when subjected to operation, peremptorily invite the sacrifice of any and all structures coming within the operative field, for it is here that an operation, unless carried out most radically, is worse than useless.

The incision influences greatly the working facility of the operator. It is absolutely necessary that a free exposure of the tumor be made. The incision usually passes down the posterior surface of the tumor, a so-called vertical incision lying over the large vessels, and another, a transverse incision, exposing the facial part of the growth. Such an incision meets the requirements for the excision of the ordinary sized tumors. The tumor is best detached from below and behind, upward and forward. By following this part of the technique, the main blood-vessels which are necessarily cut can be secured, obviating the tying of these same vessels again and again in the course of the operation. It has been found comparatively easy to compress and tie the external carotid as it enters the tumor.

It is in dealing with the back of the growth that difficulties chiefly arise. The traumatism to structures that must be evaded can be minimized by keeping close to the tumor, avoiding cutting during the dissection as much as possible. Drainage must be very carefully provided for and no skin removed unless it be diseased.

The question of subjecting a patient suffering with a malignant disease of the parotid to an operation is a very serious one. I have not yet been assured from what I have seen of this work that the good which apparently results, justifies the operative measure. I am rather inclined to deal with such conditions as I would with a malignant disease of the prostate gland,—advise against operation. However, the wish of the

patient must be considered, irrespective of what the surgeon may entertain after a careful examination of the tumor. Through a piece of good fortune it may happen that the structural involvement may be such that an operation might prove of much benefit to the patient, and bring the greatly sought mental relief to him. However, this is the sympathetic side of the question and rather out of place here.

The question of hemorrhage will tax the surgeon to his utmost. I will enumerate the principal vessels that come under the knife in a total extirpation of the parotid: Veins, right jugular, anterior and post facial; arteries: transverse facial, auricular post, occipital, superficial temporal, anterior auricular, orbitalis zygomatic, interior maxillary and the external carotid. Most of these vessels are liable to be much enlarged and numerous anastomoses are usually present.

In the face of such a vascular array, it would be tempting to ligate the common carotid as a preliminary procedure, so that the question of hemorrhage might be reduced to the satisfaction of the surgeon. With the ligation of this important vessel, there is of course always the great risk of exposing your patient eventually to brain mischief. This risk, however, is not to be compared to the risk the patient is exposed to on the operating table when a soft and extensively infiltrated parotid gland is to be removed.

Roux suggested a temporary ligation of the common carotid by passing a loop of chromic catgut ligature around the vessel, loosely tied, entrusting it to an assistant who keeps up tension on the ligature whenever bleeding takes place. Jacobson, whose extensive experience with this class of tumors has made his word authoritative, prefers the ligation of the external carotid with all the accessible branches. It has always answered the purpose to his satisfaction.

To excise a sound unchanged parotid, and one affected with cancer, are very different things. The former can be accomplished with ease, the latter, however, demands experience and mature knowledge in the surgeon who undertakes it.

4629 Cook Ave.

A REPORT ON THE MISSOURI STATE SANATORIUM.

By O. H. Brown, M. D., St. Louis.

This report, aside from its introduction and summary, is the one that was submitted to the Board of Managers of the Missouri State Sanatorium, January 1, 1910, by the retiring superintendent. The report covers the period from August 17, 1907, the date of the admission of the first patient, to January 1, 1910. The writer was in charge of the medical department of the Sanatorium during this time.

In reading this report it should be held in mind that the results have been obtained in spite of heavy handicaps, which need not here be mentioned except to say that they were those that beset all new institutions combined with those that beset most state institutions of Missouri.

During the administration of the writer, it was purposed to keep in correspondence with every living ex-patient; each was expected to report at least once every three months. Some of the information used in this report came, however, from other reliable sources than from these reports.

The law states that the institution is for incipient cases of pulmonary tuberculosis. The term "incipient" has been given various interpretations, but for our purpose it has been considered to be synonymous with favorable. It goes without saying that we endeavored to take only those cases that had a favorable aspect for a more or less complete recovery.

The responsibility for selecting the favorable cases rested and must rest upon the county examiner. The superintendent endeavored to exert an influence upon the examiner's decisions, but occasionally it has happened that the examiner's reports were too inadequate to give much basis for an opinion by anyone. Then again it frequently happened that the examiner was besieged by an anxious friend or relative of the patient and yielded against his own judgment. Thus the Sanatorium has had forced upon it a few cases that were unfavorable from the outset. When it was at all possible these unfavorable cases were sent home, but in several instances the discharging of these sick, helpless, hopeless cases was pushing them into the cold, heartless world, without home or shelter and almost without friends; and this, I am not ashamed to say, I did not have the courage to do. This explanation will account for three or four of the deaths that were had and for most of the few cases that did not do well.

While it is unquestionably true that many, many cases of pulmonary tuberculosis are absolutely and enduringly cured, the conservative tuberculosis specialist has, as a rule, extreme hesitancy in stating that any particular case is cured. The term "apparent cure" is now being gen-

erally used in place of "cure," and "apparent arrest" in place of "arrest;" and if for no other reason than the value of the suggestion to the patient, the substitution is a commendable one.

It is a matter of history now, that nearly all first stage cases are favorable, a good per cent. of the second stage cases is favorable, and a small per cent. of the third stage cases is favorable for greater or less improvement. The classification of cases, even according to the standards recommended by the National Association for the Study and Prevention of Tuberculosis, is to a greater or less degree arbitrary. In deciding whether any particular case belonged to class I., II. or III., the subsequent record of that patient was, in a measure, taken into consideration.

Our records show that, of the 309 cases admitted to the Sanatorium between the dates August 17, 1907, and January 1, 1910, 63 were classed as first stage cases, 219 as second stage cases, and 27 as third stage cases. Of the 63 first stage cases there were, at the time of discharge or before, 56 apparently arrested cases; four were greatly improved and will doubtless yet develop into arrested cases; two were unimproved; one died.

The gain that a patient makes is a fair indication of his improvement. Occasionally only, a patient gains in weight and does not improve in other respects. Almost without exception, of these 63 stage I. cases there was an improvement of all symptoms proportionate or greater to the gain in weight. Three made no gain. Ten gained each from five to ten pounds. Twelve gained each from 10 to 15 pounds. Twelve gained each from 15 to 20 pounds. Nine gained each from 20 to 25 pounds. Two gained each from 25 to 30 pounds. One gained from 30 to 35 pounds. Three gained each from 35 to 40 pounds. For the 60 that made gain, the total gain was 852 pounds, an average of 14¼ pounds per patient. Of the three which did not gain, one had a severe form of arteriosclerosis, one was in the Sanatorium only two days, and one gained splendidly for three weeks and then suffered a backset which ultimately resulted in death. Most of these cases had their symptoms disappear entirely.

The average length of stay in the Sanatorium for the 63 stage I. cases, was three to five months each. One remained less than one week, seven less than a month, 28 less than three months, 44 less than six months, 50 less than nine months, 57 less than one year, 60 less than 15 months, 61 less than 18 months and 63 less than 21 months.

In other words only two cases were here more than 18 months; only three more than 15 months; only six more than one year; only 13 more than nine months; and only 19 were here more than six months.

The subsequent record, up to about the present time, of these 63 patients is that 42 of them are leading at least fairly useful lives at home, and a large per cent. of them are working as hard as ever. Fifteen of the 63 are still taking the cure; there are three dead, one from arterio-

sclerosis, one from appendicitis, and one from a hemorrhage into the pleural sac; from three of the 63 we have had no reliable recent reports.

Of the 219 stage II. cases, 106 were apparently in a stage of arrest at the time of discharge or before; 80 were greatly improved and had every promise of developing into arrested cases; 21 were slightly improved; 4 were unimproved and 8 died. It must be held in mind that most of the unimproved and slightly improved cases were or had been in the Sanatorium only a few days. Some of the slightly improved and some of the greatly improved cases are still in the Sanatorium trying to develop into arrested and possibly cured cases.

Of the 208 stage II. cases that made improvement, 45 gained each one to five pounds; 57 of them gained each from 5 to 10 pounds; 36 of them gained each from 10 to 15 pounds; 40 of them gained each 15 to 20 pounds; 18 of them gained each 20 to 25 pounds; six of them gained each 25 to 30 pounds; four of them gained each 30 to 35 pounds; one gained 40 and one gained 50 pounds. This is a total gain for the stage II. cases of 2,399 pounds, an average per patient of 11½ pounds. The symptoms of these cases improved practically proportionately with the gain in weight.

Again it must be held in mind, that a large number of these patients have been or were in the Sanatorium only a short time. Of the 211 (not counting the eight that died) stage II. cases, two remained at the Sanatorium 21 to 24 months; two 18 to 21 months; three 15 to 18 months; eleven 12 to 15 months; thirteen 9 to 12 months; twenty-six 6 to nine months; forty-eight 3 to six months; fifty-four 1 to 3 months and fifty-two 1 month or less. The average length of stay for each patient was something over four months. A very fair percentage of these cases also experienced the satisfaction of having their symptoms disappear entirely. The reports that have been had within recent months show that 73 of the 211 cases are leading fairly useful lives. In a number of instances the work that is being done is quite heavy, but for the most part these people are following their definite instructions to be particularly careful not to over-do. Some of these cases are doing their graduated exercise at the Sanatorium. Ninety of the 211 are still taking the cure more or less strictly, either in the Sanatorium or at home, and are doing fairly well. Eleven of the 211 have not been heard from within recent months, but unquestionably many of these are doing well.

Of the 27 stage III cases, five were at time of discharge in the state of arrest, four were greatly improved, eight were slightly improved, eight were unimproved and three died in the Sanatorium. Two of these gained each between 30 and 35 pounds. One gained from 20 to 25 pounds. Two gained each from 15 to 20 pounds. Five gained each from 10 to 15 pounds. Three gained each from 5 to 10 pounds. Four failed to make a gain. The total gain for the 23 patients was 220 pounds, an average of a fraction less than 10 pounds per patient. Of the 24 stage III. cases (leaving out the three that died), four remained in the

Sanatorium nine to 12 months; three, six to nine months; three, three to six months; five, one to three months; nine one month or less. The average stay for these cases was a shade less than four months. The reports received from the stage III. cases reveal the facts that four of them are arrested cases and leading fairly useful lives; eight are still taking the cure; thirteen are dead and three are unknown.

Summary.

Over ninety per cent.* of all cases received in the Sanatorium made improvement. Ninety-four per cent. of the stages I. and II. cases made good improvement while in the Sanatorium. The five per cent. that did not gain had serious complications, did not stay long enough, or could not take the cure properly. Over two-thirds of all patients treated in the Sanatorium were second stage cases according to the classification of the National Association for the Study and Relief of Tuberculosis. This emphasizes the fact that the diagnosis of pulmonary tuberculosis is not made as early as it should be, due to the fact that the patients do not go to the physicians in time, and too often the physicians do not recognize the condition promptly.

In concluding, I would call attention to the great need Missouri has for a State Hospital for the care of advanced cases of tuberculosis. During the two and one-half years that I was at the Sanatorium, I refused admission to case after case in pitiful plight,—almost homeless, almost friendless, almost dead, but not too dead or too friendless to scatter the infection to hundreds of healthy individuals.

*It must not be understood that 90 per cent. of all cases developed into "apparently arrested" cases. Such might have been the results had all cases continued the cure as long as advised. Time only will allow us to estimate of the "apparent cures" and "apparent arrests," etc., but it seems reasonable to conclude that our results will compare favorably with those of other sanatoria.

OPHTHALMOLOGICAL EXPERIENCE.*

By Barton Pitts, M. D., St. Joseph, Mo.

Personal experience in the practice of medicine, if the observer is competent and honest, is of inestimable value.

There are few in the profession who have the time, ability, or opportunity to devote to original research, yet there is none whose personal experience is without value.

I shall not attempt to include the entire field of opthalmology, but shall only briefly and modestly refer to the more important and practical subjects with which we have to deal.

In surgical operations upon the eye I have entirely discarded all so-called antiseptic agents, particularly in operations upon the eye-ball, otherwise than thorough cleansing with boiled water upon the conjunctiva, and liquid soap upon the skin. Instruments and dressings are previously boiled. Should infection of the conjunctiva be suspected, as evidenced by preliminary bandaging, its source, if possible, should be corrected; if originating in the lachrymal sac, it should be obliterated and the conjunctiva treated for months with a one or two-grain solution of nitrate of silver, properly prepared, and used freely and frequently.

In the use of therapeutic agents, the structures of the eye offer a particularly favorable opportunity to observe their effect; yet, while not an enthusiastic believer in drugs, every one of experience must appreciate their efficacy, especially in their topical use, yet I am convinced there are many instances where their use is harmful; due often to their too great concentration, or too vigorous and frequent application. While if properly and intelligently used, such agents as sulphate of copper, silver and other stimulants are beneficial, yet are susceptible of injury and damage to the delicate structures of the eye, when improperly used.

I have never observed any unfavorable effect from the use of cocaine, but I am convinced that in inflammatory conditions, such as iritis, cyclitis and keratitis, and even in cataract extraction and iridectomy, the use of adrenalin is attended by unfavorable reaction.

The expedient of local blood-letting; the use of the actual cautery for relief of deep-seated pain, fomentations, and the insertion of seatons, particularly in iritis, cyclitis and interstitial keratitis, although practically out of fashion and discarded, have, I believe, in many instances, decided merit, and at least offer us an expedient, of which we often stand in need.

*Read in the Eye, Ear, Nose and Throat Section at the Annual Meeting of the Missouri State Medical Association, Jefferson City, May, 1909.

While I do not wish to appear dogmatic, I will state that after a large and varied experience, extending over a period of twenty-five years, the conclusions upon the following subjects are at least honest, if not in harmony with the views of all others.

In cataract extraction, the flap incision, with a large iridectomy, with the entire expression of all cortical substance possible, without irrigation, offers the simplest and surest method of restoration, to at least a useful degree of vision, especially at the hands of the ordinary operator. Otherwise than some eight or ten cases of involuntary lens extraction, within the capsule, due to dislocation of the lens from fluidity of the vitreous, or an over-ripe condition of the lens and capsule, I have not yet undertaken intentionally the extraction of the lens within the capsule; but I am convinced that this procedure, in at least selected cases, will become the adopted operation of the future. Without exception, in the eight or ten cases referred to above, where the lens and capsule were removed, the outcome was favorable, although there were many other unfavorable conditions present.

In two instances, within the past year, I obtained a successful result by discission, in individuals over forty years of age; ordinarily, however, from thirty to thirty-five should limit the safety period of absorption.

There are conditions under which the operation of couching can be utilized to advantage. In one instance, within the past two years, after operating upon an individual of advanced years, using ordinary precautions, and removing the lens by the usual method, infection followed and the result was negative. The patient's circumstances were such that he was very dependent, and more than anxious to obtain some vision. The lens in the remaining eye I decided to depress, and obtained a useful degree of vision, which has been retained to the present time.

In strabismus cases, there are so many conflicting factors and individual influences as to the cause and treatment, that I am not convinced, from my experience, as to the cause, nor given to the adoption of any one method of procedure. This is a field of investigation in ophthalmology, full of great possibilities. I have seen many cases of strabismus, practically without any error of refraction; many with deteriorated vision in the squinting eye, due to structural changes; and many without; many cases in which the vision in the squinting eye was normal; and one case of most pronounced internal squint, which had existed for thirty years undisturbed, in which the acuity of vision was more than normal, and without any error of refraction, after atropia, and many instances of error of refraction, and deteriorated vision, in one or both eyes, yet no muscular incoördination present. The early and continued use of a mydriatic, avoidance of close vision, frequent and continual occlusion of the non-squinting eye, the persistent use of the stereoscope, correcting glasses, under atropia, with outdoor exercise, and measures of general invigoration, I have found in many instances to afford a successful re-

sult. In operative cases, I prefer the combined procedure of full division of the offending muscle, with advancement of the opposing muscle. Prisms I use only with double tenotomy, if necessary in paralytic conditions of squint.

In lachrymal involvements I have obtained little satisfaction from probes; in non-suppurative cases, division of the lower canaliculus, and stretching the nasal neck of the sac, by the insertion of a pair of angular scissors, closed, and opening the blades freely, is followed by less inclination to cicatrize than by the ordinary incision. In suppurative cases, I divide both canaliculi, including the sac, as freely as possible, and insert a stylet, usually lead preferred; with increasing sizes, and continued until the patient gets tired of coming. This procedure will obviate any further inflammation, and prevent recurrence, and render the eye safe for any subsequent surgical operation, and practically obviates the troublesome epiphora. This porcedure has proven so satisfactory that I have never resorted to extirpation of the entire sac. Formerly I shunned pterygia, but since the introduction of the so-called McReynold's, or Texas operation, consisting of transplantation of the growth, I feel that I can undertake a case of pterygium, without any subsequent growth returning, and the patient demanding his money back. Likewise, in entropion, since the introduction of the Hotz's operation, combined with transplantation from the mucus surface of the lip, if necessary, I feel that I can give a written guarantee, and send the patient away rejoicing.

In ulcers of the cornea, if after removing offending cillia, or other foreign body often present, and the use of atropia, general sedatives and hot applications are not effective, I use the actual cautery, and when all else fails, as is often the case, I resort to a full paracentesis, not too long deferred, even in purulent cases of gonorrhea, involving the integrity of the cornea.

In the ever present, and overwhelming army of martyrs, embraced in the countless number of trachoma victims, I resort to the thorough stripping of the conjunctiva, with the ring forceps, under any anesthetic, followed by the judicious, but long-continued application of the sulphate of copper, and feel that the patient can congratulate himself that, sometime before he dies, he may get a reasonable relief from this distressing and destructive affliction.

In glaucoma I consider a patient has a good cause of action for damages, criminal and civil, if he is denied his right to an early and large iridectomy, extending to the base of the iris; and if there is great increase of tension, particularly in the sub-acute and chronic stages, a preliminary sclerotomy, with the extraction of a few drops of vitreous, should be instituted.

In intraocular diseases I have seen some remarkable results, both in the retention and improvement of vision; but I have not yet been able to satisfy my mind whether they were due to my measures of relief, con-

sisting of electricity, phosphorus and nux, mercury and potash; or to the influence of the grace of God.

Evisceration I prefer to enucleation, except in malignant cases.

Last, but not least, in the fruitful and unending field of profit and glory, the adjustment of glasses has given me more hardening of conscience than all else, in the honorable practice of my profession. While I have satisfied many cases of vanity, and in some instances afforded direct, and greatly appreciated, benefit to vision and health, I have not yet convinced myself that, with the unaided influence of an attenuated focus, we can cure all cases of headache, vertigo, epilepsy, female complaints and ticdouloureux.

DISCUSSION.

Dr. P. I. Leonard, St. Joseph, stated that he had enjoyed hearing the paper, but did not agree with Dr. Pitts in the radical treatment of ophthalmia neonatorum. Trachoma is a disease which leads to cicatrization, and any violent treatment, other than the destruction of trachomatous bodies, would assist in the complete destruction of the conjunctiva, and increase the ultimate sequelæ of the disease.

Dr. John Green, Jr., St. Louis, said the doctor's paper had covered so many interesting points that it was a little difficult in a short discussion to know what to speak of. He agreed with the essayist in the belief that asepsis, rather than antisepsis, should be practiced in operations. He had not used bichloride of mercury for some years, but believed that there were some cases where antiseptic methods should be employed. Adrenalin had a tendency to cause secondary hemorrhage. In operating for cataract, he usually made a large conjunctival flap, as he believed this promoted early union. He referred to the method of operation for entropion, devised by Green, and modified by Ewing, and stated that it gave excellent results in operations on both the upper and lower lids.

Dr. Flavel B. Tiffany, Kansas City, used both chloride of mercury and argyrol. He did not believe in tenotomy of the internal rectus for convergent strabismus, as the eye frequently diverged later on. Instead he usually made advancement of the external rectus, where glasses would not correct. In pterygium he had used McReynold's operation and was accustomed to cauterize the corneal base. In trachoma he used expression, and in old pannus he had used jequirity.

Dr. W. H. Schutz, Kansas City, believed that asepsis was better than antisepsis in operations, and the best fluid to be used was normal saline solution. In operations for entropion, he used Green's method, with good results. In the treatment of trachoma he prefers using Knapp's roller forceps and brossage, with a bichloride solution in the proportion of 1 to 1,000. In the removal of pterygium, regardless of the kind of operation performed and in spite of cauterizing the sclero-

corneal area, he found that the pterygium will sometime return. He prefers the McReynold's transplantation operation.

Dr. J. D. Pifer, Joplin, stated he had not had good results with the transplantation operation for pterygium.

Dr. A. E. Derwent, Clinton, stated that the operator should have a very sharp knife, by means of which he could shave off all the superficial tissue from the corneal border.

Dr. E. J. Norris, St. Louis, stated that, judging from the discussion of operations for pterygium, McReynold's operation was not understood and consequently had not been properly done, which fact accounted for reported failures. In his opinion, when McReynold's operation was properly done, recurrence was a rare thing.

Dr. S. G. Kelly, Sedalia, thought that in general emergency cases, such as he came in contact with, better results were obtained after the use of some mild, non-irritating antiseptic solution, before the operation. He believed that pterygium was a malignant growth, in so far as it rapidly returned in an unsuccessful operation.

Dr. John S. Wever, Kansas City, thought the doctor's paper could not be properly discussed because it covered such a wide range of subjects and might more properly have been entitled "Thirty Years' Practice in Ophthalmology." He believed that the titles of the papers presented should be more specific to allow fair discussion, and that the subject matter presented should be limited in scope so that any one paper would not touch the same ground, as had a dozen other papers on the same program.

Dr. Flavel B. Tiffany, Kansas City, stated he was especially interested in the operation for pterygium and requested information as to the McReynold's operation. He said that McReynold's operation was practically the same as was made at Moorfield's, and was the one he had practiced for many years.

Dr. J. H. Thompson, Kansas City, believed suppuration could be practically eliminated by absolute cleanliness—the patient, the operator and the knife especially, should be perfectly clean. It was his custom to first take the grease off by means of benzene, then follow with alcohol, then with water. In cleansing the face, ordinary soap should not be used, but green soap, properly cooked and prepared, was the correct soap to use. He further took the precaution to douse his own head in water, in order that the skin be damp, and the scurf thus be prevented from getting into the wound. Many eyes are infected from the mouth; therefore, especial care should be taken that the teeth and gums be examined and cleaned before the operation.

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ADDRESS ALL COMMUNICATIONS TO METROPOLITAN BUILDING, ST. LOUIS, MO.

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EDITORIAL

THE HANNIBAL MEETING.

The physicians of Hannibal (Marion County Medical Society) have about completed arrangements for the coming session of the Association on May 3, 4, 5. At this writing the plans for the meeting are as follows:

The general sessions, the House of Delegates and the Medical Section, will hold their meetings in the Assembly Hall of the Mathew-Columbus Building. The Surgical Section will meet in the Commercial Club, whose building adjoins the Mathew-Columbus Building. The Eye, Ear, Nose and Throat Section will meet in the Mathew-Columbus Building. There are a number of small rooms adjoining the meeting halls suited for the Judicial Council and committee work, as well as for exhibitors. The rooms are commodious, with plenty of light and admirably adapted to the uses of the Association.

It is being planned to arrange the work of the delegates so that all business affairs may be completed on the morning of the first day; this will permit the Association to convene in general session in the afternoon for the reading of special reports which have special scientific interest for all members. Another departure is being considered, namely, the reading in the General Sessions of certain papers which are of general interest, but which are listed in the Sections.

Marion County Medical Society is making preparations for entertaining the members in a most cordial manner, and we hope there will

be a large gathering. The committee of Hannibal physicians will meet all trains and conduct the members to their hotels. Dr. R. H. Goodier is Chairman of the Committee of Local Arrangements, and will be glad to correspond with any members concerning any special arrangements that may be wanted. A Bureau of Information will be established at the Commercial Club rooms.

The date of the meeting has been set two weeks earlier than usual in order to enable members to return to their homes and prepare to attnd the meeting of the American Medical Association in St. Louis, June 7-10.

FOR A DEPARTMENT OF PUBLIC HEALTH.

Mr. Robert L. Owen, Senator from Oklahoma, delivered a speech recently in the Senate in which he strongly advocated the establishment of a Department of Public Health, with the Secretary a member of the Cabinet.

The great waste of human life in this country and the enormous percentage of morbidity due to preventable diseases are impressing the leaders of men in other walks of life than the medical profession. Mr. Owen's advocacy of a Department of Public Health is the result of the agitation that has grown out of the great work being done by the American Medical Association and the Committee of One Hundred, and spread its influence into many trades and professions.

In his closing remarks, Mr. Owen made this stirring appeal to the Senate:

> In the name of the people and in the name of the American Medical Association, whose members are the faithful and self-sacrificing guardians of the health of our people, and in the name of the Committee of One Hundred, of the American Federation of Labor, of the National Grange, and of the various health boards of the 46 States of the Union and of the great body of learned men desiring improved sanitation and the application of the improved agencies of preventing disease, disability, and death, I pray the Senate to establish a department of public health.
>
> The principle of the bill meets the general approval of the public-health societies and of the medical associations of the United States, and there should be no difficulty in perfecting this bill and in impressing upon the country the importance of organized effort to control the ravages of tuberculosis, typhoid and malarial fevers, bubonic plague, and other preventable diseases, which inflict such enormous injury upon the people of the United States, impose such vast, but needless, human misery and pain, with great financial loss and loss of prestige and power.
>
> A humane nation will not fail to act when it is known that we could save the lives of 600,000 of our people annually, prevent the sickness of 3,000,000 of people per annum, who now suffer from preventable disease, and greatly abate the volume of human pain, misery and death.

The bill is Senate Bill No. 6049. It should receive the endorsement of our Association and of every County Medical Society. We urge every member of the Association to write to Senators Stone and Warner and request them to support the measure.

WHAT TO DO IN MALPRACTICE SUITS.

The Legal Defense Committee has been called upon to defend several members recently in suits for malpractice. One of the cases was brought to the attention of the committee upon such short notice as to interfere very seriously with the effectiveness of the defense prepared by th committee.

Notwithstanding the fact that the plan for defending members against suits for malpractice has been explained a number of times in these columns, and in other ways, there still seems to be much uncertainty and considerable ignorance of the proper course to pursue in order to enlist the assistance of the Legal Defense Committee.

The plan is very simple and all members should familiarize themselves thoroughly with its workings. The *first* requisite is, that the member who desires the aid of the Defense Committee shall be in good standing with his local society; that is, his dues must be paid at the time suit is brought against him. Delinquency in payment of dues is tantamount to suspension from the Society and deprives the delinquent member of all privileges. *Second,* immediately upon receipt of information that suit has been filed for malpractice, the member must present to the Chairman of the Defense Committee *his request for aid in the defense, together with a full and complete history of the case and the services therein rendered.* Unless this information is furnished promptly, the work of the Defense Committee is rendered exceedingly burdensome, and in fact might result in depriving the member of the services of the committee because of insufficient time in which to prepare the defense. *Third,* the member should not employ an attorney without first communicating with the Defense Committee. The committee will employ an attorney for the defense of the member, but this attorney must be chosen, and the amount of his fee agreed upon, by the committee, not by the member who is to be defended. If, however, the member wishes to employ an attorney on his own account, no objection will be raised, but such additional legal service must be paid for by the member himself.

SANITARY ICE TUMBLERS.

Tumblers made of ice is the latest addition to sanitary utensils. An ingenious Dutch engineer has invented an electrical machine which manufactures ice tumblers "while you wait." The tumbler is made of pure distilled water and is dropped automatically into a paper holder ready for use. It weighs about four ounces, with walls about an eighth of an inch thick at the top, and holds about nine ounces of fluid.

These ice tumblers have been largely used in Paris and other Continental cities for some time, and we shall certainly welcome their introduction in this country. It will be a relief indeed to sip ice tea from a perfectly clean glass—even if it is made of ice. The dirty towel of the busy mixer of cooling potions will then no longer add to the physical distress caused by a parched throat, the mental anguish we endure through the dread of infection from some communicable disease lurking on the rim of a glass unwashed or carelessly slopped in a basin of dirty water underneath the counter.

The ice tumblers are the acme of hygienic cleanliness. No hand touches them in the process of manufacture, and they are destroyed immediately after use. Sanitary science can go no further than this in the prevention of the spread of disease. As for cost, if reports are true, the use of this ice tumbler-making machine ought to be cheaper than the employment of ordinary glassware, since the ice tumbler and the paper holder can be made for a fraction of a cent.

THE MEDICAL SECRETARIES ASSOCIATION.

The Society of County Secretaries will meet on Tuesday afternoon, May 3rd, at 4:30. Dr. Frederick R. Green, Assistant to the General Secretary of the American Medical Association, has accepted an invitation to be present at this meeting and will deliver an address. Other papers on the program at this writing, are:

What Should County Societies do with Advertising Doctors. By Dr. Bert B. Parrish, Kirksville, Mo.

Some of the Duties of the County Secretary. By Dr. E. L. Stewart, Kansas City, Mo.

The Young Men in the Society; How to Interest Them. By Dr. J. L. Burke, Laclede, Mo.

A six o'clock dinner will be served at the Commercial Club.

EDITORIAL NOTES

THE STEAMBOAT TRIP TO HANNIBAL.—Those who desire to make the trip to Hannibal on the steamboat excursion from St. Louis should notify Dr. Clarence Loeb, Humboldt Building, St. Louis, at once. It is necessary to complete arrangements by April 15th. If the number of applications received by that time does not justify chartering the boat, the trip will be abandoned.

It is planned to leave St. Louis on May 2nd and arrive in Hannibal early on the morning of the 3rd. Those who make the trip will live on the boat during the meeting. The cost of the trip will be approximately $12.00.

ST. JOSEPH-BUCHANAN County Medical Society has established a weekly bulletin. The first issue appeared on March 1st. This is certainly the best method of keeping the members of the county society informed upon the progress of affairs in the society. All members cannot be present at every meeting but their interest in the work will be less likely to suffer a decline when a bulletin is published regularly containing information of the work that has been done and what is in contemplation to do. There are now three bulletins issued weekly by county societies, viz: The St. Louis Medical Society, The Jackson County Medical Society and The St. Joseph-Buchanan Medical Society.

THE following is a list of the hotels at Hannibal with the rates per day:

Mark Twain Hotel (Headquarters), American plan, $2 to $3 per day. Conklin Hotel, American plan, $2 per day. Kettering Hotel, American plan, $2 per day. Windsor Hotel, European plan, 50c to $1 per day. Union Depot Hotel, European plan, 50c to $1 per day.

Members should write promptly and reserve accommodations in advance so that there will be as little confusion and disappointment as possible upon arrival. The Local Committee of Arrangements will have a list of boarding houses and private homes where members may secure accommodations. Communications on this subject, addressed to Dr. R. H. Goodier at Hannibal, will have attention and rooms will be reserved.

PRESERVATIVES and Press Agents. Many and devious are the ways by which those who would "doctor" our food attempt to create public sentiment in favor of chemical preservatives. During the last few

months a harmless looking letter signed "H. L. Harris" has appeared in the newspapers of those cities and towns in which deaths from ptomain poisoning (much-abused term) have recently been chronicled. This letter—we use the singular advisedly—does not vary in its wording in different papers, except for the opening sentence. It begins by referring to the death which the writer has seen reported in the paper written to, and then continues:

"It is certainly appalling to learn how rapidly ptomain poisoning cases have increased since the enforcement of the pure food law. According to press dispatches there have been in the United States since the enforcement of this law 16,492 cases of ptomain poisoning, 573 of which were fatal. Prior to the enactment of the pure food law borax and boron compounds were used on meat, fish, fowl, sausages, oysters, etc., consequently such food, which readily becomes contaminated, was kept in a hygienic, healthful condition. * * *"

And much more to the same effect. The letter closes with the suggestion that the law should be so amended "as to permit the use of modern non-injurious preservatives." Not only in the form of letters do we find these much-reiterated sentiments of Mr. Harris. Overworked editors occasionally use them *en bloc* to fill a gaping void on the editorial page. For instance, we find in the Alliance (Ohio) *Review,* December 4, 1909, an editorial (?) entitled "Ptomain Poisoning," which begins:

"A recent case of ptomain poisoning in Alliance has caused the thought that it is certainly appalling to learn how rapidly ptomain poisoning cases have increased since the enforcement of the pure food law. According to press dispatches there have been * * * *"

And so on; the Harris letter *verbatim et literatim.* As many of our readers will remember, the H. L. Harris who thus champions the cause of boron compounds as food preservatives is the press agent of the Pacific Coast Borax Company, sometimes called the "borax trust." Harris also writes under the name of "H. H. Langdon," and on the stationery which carries this name he calls himself a "Food Expert," although the New York City directory has him listed as a "journalist." He has for years, under one or the other of these names, been writing "articles" systematically attacking pure-food legislation in general and Dr. Wiley in particular. It would be well for physicians to notice with some care both the correspondence and editorial columns of their local newspapers when cases of ptomain poisoning have been chronicled. The chances of a pro-borax article appearing subsequently are good in proportion to the care exercised by the clipping bureaus which furnish the borax company with such news items, and the carelessness of the editors of the papers which accept the Harris-Langdon inspired communications—either for correspondence or as "editorials."

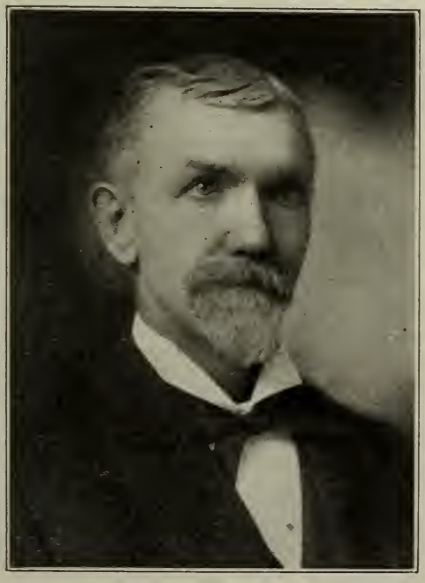
These articles are not likely to appear in the metropolitan dailies, because nearly all such papers belong to an association which furnishes them with lists of press agents. But it is the papers of the smaller towns

that Harris-Langdon delights to dupe into printing his contributions in favor of chemical preservatives. It is in such towns that the wide-awake physician can do yeoman service in the interest of public health by enlightening those editors who, through no fault of their own, are, or may yet be, misled into giving free publicity in the interests of the sophisticators of foodstuffs. Of course, in those cases in which the editor calmly appropriates Harris' "dope" and prints it as his own, the physician will not be thanked for mentioning the fact—but the editor should be advised, just the same.—*Jl. American Medical Association.*

OBITUARY

JAMES THOMPSON, M. D.

Dr. James Thompson died at his residence February 13th. Born near Plattsburg, Mo., in 1845, he graduated at the Jefferson Medical College in Philadelphia in 1870 at the age of twenty-five years. He at once started practice in Osborn, Mo., where he remained only two years



JAMES THOMPSON, M. D.

and in 1872 located at St. Louis, where for fifteen years he devoted his time and energy to his specialty—gynecology and surgery. After fourteen years of successful practice in Missouri, he was compelled on account of poor health to move to Florida. This was in 1884, and three years later found him in Butte, Montana; after a stay there of only a

few months, Dr. Thompson went to New York City for post-graduate work. He remained there fourteen months, devoting his entire time to clinics. In 1889 he came to Kansas City, where he has for over twenty years been recognized as one of the leading men in his specialty. At death Dr. Thompson was sixty-five years of age and, though for years not having enjoyed the best of health, his ambition to press forward to the end, his zeal and energy to accomplish yet greater things, combined with his gentle manner, caused him to be looked upon as a man younger than his years. He became a member of the Jackson County Medical Society in 1899, and was ever one of its most faithful workers.

CLARENCE W. PICKERILL, M. D.

Dr. Clarence W. Pickerill died at the home of his parents, Lake Charles, La., February 20, 1910. He graduated at the Iowa Eclectic Medical College, Des Moines, in 1892. He never practiced or claimed to practice sectarian medicine. He joined the Jackson County Society in 1905.

In 1906 Dr. G. R. Pickerill, the doctor's brother, who had two years previously graduated at the Kansas City Medical College, contracted pulmonary tuberculosis, and it was no doubt Dr. Pickerill's constant personal attention upon his brother that caused him to contract the disease. He sent his brother to Colorado, New Mexico and Texas, but after only a few months he returned home where he died. For a few months following his brother's death Dr. Pickerill continued his practice, but his health began to fail, and soon he too went West.

Dr. Pickerill was a high degree Mason. His funeral services were conducted by the Shriners. He leaves a wife, father, mother and a host of friends to mourn his death.

W. F. MITCHELL, M. D.

Whereas, It is our painful duty to report the death of our honored member, Dr. W. F. Mitchell, who died September 11, 1909, therefore

Resolved, That in the death of Dr. Mitchell his family has lost a devoted husband and father, our society a faithful and useful member and the community an upright and honored citizen.

Resolved, That we will bear in grateful remembrance the zeal with which Dr. Mitchell discharged all his professional duties.

Resolved, That we tender our sympathy to the bereaved widow and children.

Resolved, That a copy of these resolutions be spread upon our records and an engrossed copy sent to the family of our deceased member.

Jule Keller,
A. J. Drake,
J. B. Bridges,
The Committee.

DR. J. L. HARRINGTON.

Dr. J. L. Harrington was born in Cincinnati, Ohio, August 30, 1867. Died December 8, 1909. He came to Kansas City with his father and family in 1870, and graduated in the University Medical College in 1889.

After a sojourn of several years in New Mexico he returned to Kansas City, and for three years was connected with the health department, where he performed efficient service. Upon retirement from the board he built up a creditable private practice in his specialty, genito-urinary diseases. Upon the organization of the Medico-Chirurgical College, of which he was one of the founders, he became secretary of the institution, and professor of genito-urinary diseases thereof, until the school became merged into the School of Medicine of the Kansas University. Upon the organization of the Kansas City Post-Graduate Medical School and Hospital he held the same chair therein, and was secretary of the board of directors. It can be said of Dr. Harrington that he was an untiring worker, a faithful and capable teacher, an upright gentleman and a loyal friend. No duty was ever neglected by him, and in the positions he held in the schools with which he was connected he was one of the most zealous and successful workers.—*Kansas City Med. Index-Lancet.*

CORRESPONDENCE

To the Editor:

The St. Louis Maternity Hospital desires to place before you a plain, frank statement of the scope of its work and aims as well as to give you some information concerning the accommodations and equipment which it has to offer. This is not a begging appeal for support, but an offer of service in a field where there seems to be a great need in St. Louis.

The St. Louis Maternity Hospital is a hospital for obstetrical patients and is under the control of a board of lady managers.

An impression has gained circulation that this hospital is a refuge for the confinement of fallen girls. It is mainly to correct this idea that the present letter is being sent out. The hospital has a two-fold purpose: (1) To care for married women who can pay but little or nothing toward the expenses of their confinement, and who, for one reason or another, can not or should not be confined at their home; (2) to provide a home during confinement for unmarried girls during their first pregnancy. No girl is admitted to the St. Louis Maternity Hospital during a second illegitimate pregnancy, or whose character is such as to make her an undesirable patient for the institution. A considerable number of such women have been refused admission during the past year. Physicians need have no concern, therefore, in sending to our hospital such married women as do not wish to be confined at home. On the other hand, special efforts are made to care for the unmarried women after confinement. The mother instinct is fostered. Employment is found for those who must earn their own living, and their material and moral welfare looked after as opportunity affords.

The hospital has about thirty available beds so arranged that about one-quarter of them are in private rooms, accommodating one, two, or three patients. These are at the disposal of patients who are willing

to pay the moderate rates of the hospital for their accommodation. Patients receiving free treatment and paying only part of their expenses are taken care of in small wards. Those patients able to pay for their hospital service can find accommodations ranging in expense from $10 to $25 per week for board and nursing. In addition there is a moderate fee charged for dressings, medicine, etc.; no extra fee for delivery room except in operative cases. The medical fee is arranged by each individual patient with her private physician.

Applications for admissions and inquiries may be made at the hospital at any time.

The medical staff of the hospital comprises some twenty practitioners, skilled in the various fields of medicine. The immediate oversight of the medical side of the hospital is in the hands of an active visiting staff of four obstetricians, with a resident physician always on call.

The nursing and household arrangement is under the charge of a graduate nurse of exceptional experience, while a staff of seven senior nurses from some of the leading nurses' training schools of St. Louis, have the immediate care of all the patients.

Further inquiry concerning any phase of the work or aims of the hospital may be addressed to the Secretary of the Board of Lady Managers or to the hospital at 2621 Locust Street, St. Louis, Missouri.

Respectfully,

MRS. A. W. LAMBERT,
MRS. A. S. BOYD,
MRS. GEORGIE NOBLE BRUNAUGH,
Committee for the Board of Lady Managers.

JOHN YOUNG BROWN, M. D.,
BERNARD W. MOORE, M. D.,
FRED J. TAUSSIG, M. D.,
Committee for the Medical Staff.

AUXILIARY COMMITTEE ON PUBLIC POLICY AND LEGISLATION.

A request having been received from the Committee on Legislation of the American Medical Association for a list of the members of the Missouri Auxiliary Legislative Committee, the following members were selected:

MISSOURI AUXILIARY LEGISLATIVE COMMITTEE.

Name.	Address.	County.
W. W. Best	Bolckow	Andrew.
Austin McMichael	Rockport	Atchison.
C. A. Rothwell	Mexico	Audrain.
D. L. Mitchell	Cassville	Barry.
E. N. Chastain	Butler	Bates.
C. F. Brown	Lamar	Barton.
Marion Dillon	Fairfield	Benton.
C. M. Witmer	Marblehill	Bollinger.

Name.	Address.	County.
A. B. McComas	Sturgeon	Boone.
P. I. Leonard	St. Joseph	Buchanan.
W. F. Taylor	Poplar Bluff	Butler.
Tinsley Brown	Hamilton	Caldwell.
Martin Yates	Fulton	Callaway.
G. T. Meyers	Macks Creek	Camden.
E. H. G. Wilson	Cape Girardeau	Cape Girardeau.
R. F. Cook	Carrollton	Carroll.
J. A. Chilton	Van Buren	Carter.
M. P. Overholser	Harrisonville	Cass.
J. W. Dawson	El Dorado Springs	Cedar.
C. A. Jennings	Salisbury	Chariton.
James A. Robertson	Ozark	Christian.
F. B. Miller	Kahoka	Clark.
J. M. Allen	Liberty	Clay.
P. M. Stockman	Plattsburg	Clinton.
J. B. Lionberger	Boonville	Cooper.
W. L. Brosius	Gallatin	Davies.
R. A. Evans	Amity	DeKalb.
W. E. Rudd	Salem	Dent.
B. T. Landis	Ava	Douglas.
W. E. Sturgis	Kennett	Dunklin.
A. C. Brown	Moselle	Franklin.
John D. Seba	Bland	Gasconade-Maries-Osage.
G. W. Whitely	Albany	Gentry.
J. E. Dewey	Springfield	Greene.
Bertha M. Sutton	Trenton	Grundy.
E. H. Bryson	Bethany	Harrison.
Robt. D. Haire	Clinton	Henry.
J. F. Chandler	Forest City	Holt.
J. B. Fleet	New Franklin	Howard.
H. C. Shuttee	West Plains	Howell.
G. W. Farrar	Ironton	Iron.
Herman E. Pearse	Kansas City	Jackson.
R. M. James	Joplin	Jasper.
R. E. Donnell	De Soto	Jefferson.
E. H. Gilbert	Warrensburg	Johnson.
A. R. Wiley	Hurdland	Knox.
S. A. Casey	Lebanon	Laclede.
C. T. Ryland	Lexington	Lafayette.
A. H. Madry	Aurora	Lawrence-Stone.
Paul F. Cole	Steffensville	Lewis.
W. P. Smith	Troy	Lincoln.
F. W. Burke	Laclede	Linn.
J. C. Shelton	Chillicothe	Livingston.
M. P. Sellers	Anderson	McDonald.
A. B. Miller	Macon	Macon.
William Nifong	Fredericktown	Madison.
C. R. Dudley	Hannibal	Marion.
C. R. Buren	Princeton	Mercer.
W. S. Allee	Olean	Miller.
W. P. Howle	Charleston	Mississippi.
H. C. Freudenberger	Clarksburg	Moniteau.
W. T. Bell	Stoutsville	Monroe.
W. M. Wheeler	High Hill	Montgomery.
H. N. Lutman	Versailles	Morgan.
J. H. Timberman	New Madrid	New Madrid.
Horace Bowers	Neosho	Newton.
W. M. Wallace, Jr	Maryville	Nodaway.
J. L. Eblen	Alton	Oregon.
J. W. Johnston	Hayti	Pemiscot.
F. M. Vessells	Perryville	Perry.
W. J. Ferguson	Sedalia	Pettis.
G. W. Orrick	Rolla	Phelps.
M. O. Biggs	Bowling Green	Pike.
Alva Naylor	Platte City	Platte.

Name.	Address.	County.
J. F. Roberts	Bolivar	Polk.
James A. Townsend	Unionville	Putnam.
T. J. Downing	New London	Ralls.
C. B. Clapp	Moberly	Randolph.
H. S. Major	Hardin	Ray.
H. W. Chilton	Corridon	Reynolds.
J. T. Redwine	Doniphan	Ripley.
F. J. Tainter	St. Charles	St. Charles.
Ruth Seevers	Osceola	St. Clair.
R. W. Lanning	Ste. Genevieve	Ste. Genevieve.
A. L. Evans	Bonne Terre	St. Francois.
R. M. Funkhouser	4354 Olive Street	St. Louis (city).
John Pittman	Kirkwood	St. Louis (county)
D. C. Gore	Marshall	Saline.
H. E. Gerwig	Downing	Schuyler.
E. E. Parrish	Memphis	Scotland.
W. S. Hutton	Fornfelt	Scott.
P. D. Gum	Birch Tree	Shannon.
L. W. Dallas	Hunnewell	Shelby.
John Ashley	Bloomfield	Stoddard.
C. S. Wilson	Green City	Sullivan.
Elizabeth McIntyre	Branson	Taney.
John Phimister	Houston	Texas.
H. C. Jarvis	Schell City	Vernon.
E. A. Fluesmeier	Wright City	Vernon.
W. S. Smith	Belgrade	Washington.
R. J. Owen	Mill Spring	Wayne.
W. R. Beattie	Marshfield	Webster.
J. K. Phipps	Grant City	Worth.
L. D. Bruton	Hartville	Wright.

In view of the desire of the American Medical Association to have, for statistical purposes certain information regarding the general financial and social conditions of the members of the profession in Missouri, the ways and means for best obtaining this information was informally discussed and the Secretary of the Committee was instructed to draft a form letter requesting the information desired and to present it at the next meeting of the Committee for consideration and action.

FIFTY-THIRD ANNUAL MEETING.
HANNIBAL, MAY 3-5, 1910.

Preliminary Program.

SURGICAL SECTION.

Vaginal Fistula. By R. F. Amyx, M. D., St. Louis.

Bursitis. By J. F. Binnie, M. D., Kansas City.

The Treatment of Trifacial Neuralgia by Deep Injections. By Vilray Papin Blair, M. D., St. Louis.

Cases Illustrating Some Points in the Surgery of the Large Bowel. By John Young Brown, M. D., St. Louis.

The Technic of Immediate Closure of the Bladder Following Suprapubic Cystotomy. By C. E. Burford, M. D., St. Louis.

Intestinal Obstruction. By O. Beverly Campbell, M. D., St. Joseph.

Estheomine; Report of a Case with Exhibition of Photographs. By C. L. Castle, M. D., Kansas City.

Review of the Literature on Post-Operative Phlebitis. By W. A. Clark, M. D., Jefferson City.

Spontaneous Sterilization in Pelvic Inflammatory Masses, and its Bearing on the Operative Treatment. By H. S. Crossen, M. D., St. Louis.

Conditions Affecting the Functions of the Biliary Apparatus Which Demand Surgical Intervention. By Louis J. Dandurant, M. D., St. Joseph.

Intestinal Obstruction from Appendiceal Adhesions. By C. R. Dudley, M. D., St. Louis.

Cocaine Anesthesia in Herniotomy. By Cortez F. Enloe, M. D., Jefferson City.

Myomectomy for Uterine Fibroids. By W. J. Frick, M. D., Kansas City.

Osteophites of the Os Calcis. By J. D. Griffith, M. D., Kansas City.

Prostatectomy, Without Opening the Bladder, by the Perineal Route With Immediate Suture. By Arthur E. Hertzler, M. D., Kansas City.

Operations for the Cure of the More Severe Types of Uncomplicated Lacerations of the Pelvic Floor. By Howard Hill, M. D., Kansas City.

The Surgical Treatment of Bone Tuberculosis in the Adult. By Alexander E. Horwitz, M. D., St. Louis.

Membranous Pericolitis. By Jabez N. Jackson, M. D., Kansas City.

Paget's Disease of the Nipple; With Report of an Interesting Case. By Ernst Jonas, M. D., St. Louis.

Rupture of the Intestine from Abdominal Traumatism. By H. P. Kuhn, M. D., Kansas City.

Carcinoma of the Penis. By W. E. Leighton, M. D., St. Louis.

Surgical Suggestions. By T. F. Lockwood, M. D., Butler.

Fulguration in the Treatment of Cancer. By F. J. Lutz, M. D., St. Louis.

Bladder Stone. By Ernest G. Mark, M. D., Kansas City.

Resection of the Large Intestine for Malignant Disease. By C. M. Nicholson, M. D., St. Louis.

Further Experience With the Internal Splint in the Treatment of Fractures. By Herman E. Pearse, M. D., Kansas City.

On Fallacies in the Understanding of Antisepsis. By Marsh Pitzman, M. D., St. Louis.

The Appendix Stump. By M. G. Seelig, M. D., St. Louis.

X-Ray Diagnosis of the Diseases of the Intestinal Tract. By E. H. Skinner, M. D., Kansas City.

Surgery of the Bile Ducts. By Frank Joseph Tainter, M. D., St. Charles.

EYE, EAR, NOSE AND THROAT SECTION.

Otitic Cerebral Abscess With Rare Ocular Symptoms. By Carl Barck, M. D., St. Louis.

Surgery of the Nasal Septum. By W. D. Black, M. D., St. Louis.

The Combined Effect of Dionin and Eserin in the Treatment of Chronic Glaucoma. By W. A. Camp, M. D., Springfield.

Discussion opened by Dr. B. Freyer, Kansas City.

Conservation in Acute Mastoiditis. By Fayette C. Ewing, M. D., St. Louis.

Lantern Demonstration of Pathological Specimens of the Middle Ear. By L. K. Guggenheim, M. D., St. Louis.

A Suggestion in the Treatment of Trachoma. By E. T. Hornback, M. D., Hannibal.

Discussion opened by Dr. John C. Faris, Caruthersville.

Suppurative Ethmoiditis. By J. D. Pifer, M. D., Joplin.

The Effect of Adenoids and Diseased Tonsils Upon the General Health. By W. B. Post, M. D., Carthage.

Leprosy as Seen at the San Lazores Hospital at Havana. By F. B. Tiffany, M. D., Kansas City.

COUNTY SOCIETY NOTES

ADAIR COUNTY MEDICAL SOCIETY.

Adair County Medical Society held its regular monthly meeting on March 3, 1910, at the office of Dr. F. R. Butler, Kirksville, with the following members present: Drs. Butler, Reid, Callison, Rankin, Martin, Chinn, Chandler, Parrish and Parrish.

The scientific program was taken up, and Dr. T. R. Butler, of Kirksville, gave a well prepared lecture on "Glaucoma," demonstrated with charts. He brought out in a most careful manner and comprehensive way the etiology, pathology, symptomatology, diagnosis, prognosis and treatment of this condition and demonstrated his intimate knowledge of the subject. The lecture was greatly appreciated by those present. The paper was freely discussed and a number of interesting points were brought up and it is the wish of the society that we have more such splendid meetings.

As a whole the society is in excellent condition and the members are taking an active interest in its affairs.

The society adjourned to meet with Dr. E. C. Callison in Kirksville on Thursday evening, April 7.—Bert Parrish, M. D., Secretary.

CHARITON COUNTY MEDICAL SOCIETY.

On March 10th the Chariton County Medical Society held an open session at the First Christian Church, Salisbury. At this public meeting addresses were made by Drs. Tinsley Brown and Frank J. Lutz. The special music that had been arranged helped very much to the success of the meeting. A banquet and smoker was held after the meeting.

Those present were Drs. Tinsley Brown, Frank J. Lutz, Epperly, Welch, McAdam, Knott, Kirkpatrick, Hawkins, Brummall, Austin, Baker, Morey, Gaines, Hawkinson.—G. W. Hawkins, M. D., Reporter.

GREENE COUNTY MEDICAL SOCIETY.

Greene County Medical Society met in regular session Friday, February 25th. The attendance was good, considering the inclemency of the weather.

Dr. S. W. Tickle read a very instructive paper on "The Financial Side of a Doctor's Life." He urged prompt collections, close adherence to the fee list, and organization for financial reasons. The paper was discussed by most of the members present.—THOS. O. KLINGNER, M. D., Secretary.

HOWARD COUNTY MEDICAL SOCIETY.

Howard County Medical Society held its regular monthly meeting at Fayette on March 1st. Present: Drs. Wright, Richards, Lee, Lewis, McGee, Moore, Bonham, Champion, Kitchen and Watts. Dr. A. R. McComas, Councilor for the district, was present and gave us some very sound and wholesome advice on medical legislation and how to increase the interest in county societies.

Dr. Richards presented a patient, a young man with an affection of the shoulder. The case was examined by the members and the condition fully discussed.

Dr. Watts presented the case of sarcoma of the right leg which he has had under treatment, showing the patient to be doing nicely.

Dr. C. H. Temple, of Glasgow, was received in membership on transfer from Chariton County Medical Society.

The committee on resolutions on the death of Dr. May B. Collins was requested to send a copy of the resolutions to Mrs. Collins.

At the next meeting the subject for discussion will be: The Heart, Its Physiology, by Dr. Wright; Its Anatomy, by Dr. T. C. Richards; Its Diseases, by Dr. Watts.

The next meeting will be held on the first Friday in April.—C. W. WATTS, M. D., Secretary.

LAWRENCE-STONE COUNTY MEDICAL SOCIETY.

The Lawrence-Stone County Medical Society convened at Aurora, March 1st. Dr. J. P. Andrews, the new president, called the society to order at 10:30 a. m. The business affairs of the society were cared for and adjournment was taken until 1 p. m.

Dr. Craven, of Marionville, was ready at 1:15 p. m. with his paper, "My Experience with Typhoid Fever the Past Year." Case No. 1 illustrated the disposition of one class of people to oppose and to dictate to, the doctor, and to try to boss the physician in the management of the case. Case No. 2 was peculiar in that the appetite was never lost, the patient complaining of hunger all the time. No. 3 had constipation throughout the attack, craved acids and shed the epidermis at the end of the period. No. 4 had ill defined but sever pains in the abdomen, none of which pains could ever be located. Cases 6, 7 and 8 were in the same family; one complained of pains that could not be located and developed a habit of pinching the groin. This patient finally had convulsions and died.

The discussion by Drs. Henson, Stevenson, Rodman and others, emphasized the fact that a physician in charge of a typhoid, or any other patient, should not tolerate interference or bossism from any one, and should demand a release from "superior orders" and other handicaps or promptly quit the case. All were agreed as to cleansing the alimentary canal and as to the value of intestinal antiseptics; and some had noticed a constipation in some of their cases. Dr. Rodman believed it would soon be considered a crime, for which somebody would be held responsible, when typhoid fever appeared in a town or community. He considered the contamination of the food or water as always the cause, and that the fly was often the carrier of the germ.

Dr. Loveland reported a number of cases of diphtheria that he had treated, with varying results. He desired to know how one might make a positive clinical diagnosis, and if antitoxin was as efficient in the nasal and laryngeal as in the tonsillar variety. The doctor had experienced some difficulty, from prejudice of the parent, in giving antitoxin early and often enough to obtain the happiest results. The older members advised to give antitoxin when he thought it indicated, or to walk off and leave the case. Doctors Stevenson, Ament, Rodman, Madry and others took part in this discussion. The insidious approach, the peculiar patch and surrounding reddened zone of diphtheria, were placed in contrast with the rapid invasion, the chill and high fever of follicular tonsilitis as points of differential diagnosis, and the obscure location of the nasal and laryngeal forms, which allowed the disease longer time to gain foothold before detection, would account for the apparently small effect often seen from a large dose of antitoxin.

Dr. Rodman, of Pierce City, presented a clinic, "Cretinism Complicated by Jacksonian Epilepsy." This proved a very instructive case and echoed an interest in the study of the ductless glands, raised some months ago by Dr. Andrew's paper on hyperthyroidism. The patient had seemed healthy until in the second year when he had received an injury by a fall. The thickened cheeks, heavy submaxillary, large protruding tongue, potted belly and peculiar facial expressions, made up the appearance of the little unfortunate. Family history good, except one ancestor had been an epileptic. Dr. Rodman, in addressing the society, reviewed the relative functions of the thymus and thyroid glands. He emphasized their different periods of development and the probable purpose of each as designed by nature for the animal economy. Drs. Terry, Ament, Stevenson, Andrews and Madry took part in the discussion. The general trend of opinion seemed inclined to regard the patient as a sufferer from myxedema, that the fault was with the thyroid rather than the thymus gland; some, however, supported Dr. Rodman's diagnosis, calling attention to the fact that the tardy closing of the fontanelles, and the other markings, together with the Jacksonian epilepsy, could better be accounted for on a theory respecting an injured pituitary body and a thymus gland, than heredity and a thyroid gland; and this theory had been borne out by Dr. Rodman's experience in the treatment of the case. The patient had improved under the one and developed symptoms of hyperthyroidism under the other. The "medical iconoclast" appeared in this discussion long enough to hit heredity another lick.

Dr. Terry presented an interesting paper on "Some Cases of Impossible Diagnosis in Abdominal Surgery." Owing to the 20 minute rule, the doctor had left out a number of very interesting cases that he had intended using as illustrations, but he was given an opportunity in his closing discussion to refer to some of these. It was shown in this

paper, and the discussion that followed, how often are the signs and symptoms out of proportion to the morbid conditions found on opening the abdominal cavity. The doctor's paper was one more piece of solid evidence of the fact that one does not always know what he will find on opening an abdominal cavity.—A. H. Madry, M. D., Reporter pro tem.

MARION COUNTY MEDICAL SOCIETY.

The Marion County Medical Society met in regular session Friday evening, March 4th, 1910. The meeting was one of the best attended for several months. Dr. Frank R. Fry, of St. Louis, was present. A paper by Dr. J. N. Coons on "Some of the Ills of the Aged, and How to Treat Them," was read by the secretary. The local executive committee who has in charge the arrangements for the coming State meeting, reported suitable quarters had been engaged for the general sessions, as well as for the various sections and also exhibit space.

A motion prevailed that the local press receive report of the monthly meetings of the society through the official reporter.—R. M. Winn, M. D., Reporter.

MISSISSIPPI COUNTY MEDICAL SOCIETY.

Mississippi County Medical Society met with Drs. Davis and Hodges, in East Prairie, Mo., March 7th, 1910.

Dr. J. S. Davis reported a case of a child taken with chill, fever, rapid pulse and respiration, slight cough and wild delirium. No evidence from auscultation and percussion could be found of any pneumonia. After a general discussion and inquiry the society concluded that this was a case of grippe infection producing cerebral hyperemia and that there was probably a central area of lung involved that was obscured from ordinary examination. Other similar cases were reported and discussed.

Drs. Wallace and Martin reported an interesting case of gun-shot wound in a child 4 years old. The bullet—a 22 calibre target rifle—entered the right molar bone, ranged downward and backward, presenting near the surface in sterno-cleido-mastoid muscle about two inches below the mastoid process. Child developed paralysis six hours after being wounded, a large hematoma formed under and around the muscles and child died on the third day.

Dr. W. S. Love read a paper on "Lobar Pneumonia," which was indorsed by the society and recommended for publication in the Journal. Dr. F. S. Vernon will read a paper at the April meeting on "The Management of Pregnancy, with Especial Reference to the Prevention of Convulsions." Society adjourned to meet April 4th at Charleston.—J. C. Boone, M. D., Secretary.

MONITEAU COUNTY MEDICAL SOCIETY.

The Moniteau County Medical Society met in regular quarterly session at Tipton, March 10, 1910. The meeting was well attended, the following members being present: Drs. J. H. Lang, J. B. Stewart, J. B.

Norman, Drs. Frye, Elliott, H. B. Marsh, L. L. Latham, W. G. Wilson, J. M. Robertson, H. R. Popejoy, W. R. Patterson and H. C. Freudenberger. Dr. Osborne was a visiting physician and was elected to membership.

Clinical cases of interest were reported by Dr. Lang and Dr. Patterson.

Dr. Patterson read a paper entitled "Medical Organization." This paper was full of points of vital interest to every practicing physician and received an animated discussion. It called forth the universal commendation of all physicians present.

This was no doubt as profitable a meeting as Moniteau County has ever held and it was especially characterized by the enthusiasm and good fellowship of all in attendance.

The secretary was instructed to arrange for a combined meeting of Moniteau, Cooper and Morgan County Medical Societies at an early day in July.—H. C. FREUNDENBERGER, M. D., Secretary.

MONTGOMERY COUNTY MEDICAL SOCIETY.

The regular bi-monthly meeting of the Montgomery County Medical Society was held at the court house in Montgomery City at 1 p. m. on February 8. It having been decided at the December meeting to make this a public meeting and notice as such published in the county papers, quite a nice representation of the town people were present. After calling the meeting to order, the president, Dr. C. A. Revelle, made a short talk stating the purpose of the meeting and introducing Dr. O. H. Brown, who was present by invitation and who delivered a very interesting address on Tuberculosis, Its Treatment and Prophylaxis as Practiced at the State Sanatorium at Mt. Vernon. As this address was intended particularly for the benefit of the laity as a means of popular education, Dr. Brown avoided as far as practicable the use of technical terms and we believe his talk will be the means of creating a greater interest and a desire for more knowledge among the laity along the line of prevention of infection from this disease. At the conclusion of the address various points were discussed by members of the society, and a vote of thanks tendered Dr. Brown.

Taking up the business part of the program Dr. J. B. Holcomb, of New Florence, was elected a member of the society. Under the head of unfinished business Dr. David Nowlin, Dr. J. L. Jones and Dr. S. S. Cox were elected to serve as censors for 1910. Dr. C. A. Revelle was elected president, G. W. Muns, vice-president, J. L. Jones, treasurer, and W. M. Wheeler, secretary. Dr. Revelle was elected delegate of the society at the annual meeting of the state society to be held in Hannibal on May 3, 4 and 5, and Dr. Wheeler was chosen as alternate.

Dr. Revelle promised to prepare a paper on Enuresis, to be read at the state meeting. No further business appearing the society adjourned to meet again on April 11, at the same place.—W. M. WHEELER, M. D., Secretary.

PLATTE COUNTY MEDICAL SOCIETY.

The Platte County Medical Society met in Weston, February 16th, with a good attendance.

Dr. C. E. Benham read a paper on "The Typhoid Epidemic at Parkville," which was highly appreciated. Dr. J. W. Schultz read a paper on "My Experience in La Grippe." This paper also contained many useful suggestions and showed careful preparation. Both papers were thoroughly discussed by the members present.

The program for the next meeting consists of the following papers: The Use of Hyoscine, Morphine and Cactin in Obstetrics, by Dr. W. D. Swaney, Linkville. Discussion opened by Dr. E. R. Hull, Camden Point. Treatment of Abortion, by Dr. A. S. J. Smith, Dearborn. Discussion opened by Dr. Abe Shafer, Edgerton. Race Suicide—What the Doctor Can Do to Prevent It, by Dr. H. M. Clark, Platte City. Discussion opened by Dr. H. H. Patterson, Edgerton.

MEETING OF MARCH 2D.

Platte County Medical Society held its regular meeting at Platte City, March 2d. Present: Drs. A. S. J. Smith, M. H. Moore, F. M. Shafer, W. D. Swaney, G. C. Coffey, Spence Redman, H. M. Clark, E. R. Hull. Dr. Harrell, of Kentucky, was a welcome visitor and gave a talk that was full of inspiration for the members and was highly appreciated. The following papers were read and discussed:

"The Use of Hyoscine-Morphin-Cactin Comp. in Obstetrics," by Dr. W. D. Swaney.

"The Treatment of Abortion," by A. S. J. Smith.

These papers were well prepared and brought out a very interesting discussion. The paper by Dr. H. M. Clark on "Race Suicide," was postponed until the next meeting on account of the late hour.

The next meeting will be held on April 6th.—E. R. HULL, M. D., Secretary.

RANDOLPH COUNTY MEDICAL SOCIETY.

Randolph County Medical Society, at its meeting December 30th, 1909, elected the following officers for the ensuing year: President, Dr. D. A. Barnhart, Huntsville; vice-president, Dr. G. A. Johnson, Moberly; secretary and treasurer, Dr. L. A. Bazan, Clark; delegate to State Medical Association, Dr. C. B. Clapp, Moberly; alternate, Dr. F. L. McCormick, Darksville; censor committee, Drs. G. O. Cuppaidge, T. D. Mangus, C. K. Dutton, for one, two and three years, respectively.

After election the subject of appendicitis was presented by Dr. C. B. Clapp and thoroughly discussed by the members present. Not having any more papers or clinics, the society adjourned until next regular meeting, February 24th.

MEETING OF FEBRUARY 24TH.

Dr. L. A. Bazan gave a history of a rather unusual case of chronic hypertrophy of the liver in a man of 78 years of age, non-alcoholic, non-syphilitic and non-tubercular.

Discussion ensued and Dr. Bazan, in closing, thanked the society for the interest they took in the case.

The society then adjourned till the next regular meeting, March 31st, 1910.—L. A. BAZAN, M. D., Secretary.

ST. LOUIS COUNTY MEDICAL SOCIETY.

The St. Louis County Medical Society met in Webster, January 12, 1910.

Dr. J. H. Armstrong read a paper on Modern Surgery, in which he covered many points showing the necessity of assisting nature by removal or repair of the numerous apparently innocent defects found in our daily practice. His paper was broad and comprehensive.

The report of the secretary for the year ending December 31, 1909, was as follows: Number of regular meetings held, 9; total attendance, 110; average attendance, 12; greatest number at any meeting, 18; least number at any meeting, 7; scientific papers read, 7; pathological specimens presented, 2; number of members paid in full, 35; number of members unpaid, 1; number of members received, 4; number of members removed from county, 1; none of the members died or resigned.

FEBRUARY MEETING.

The society met at Webster February 9, 1910.

Dr. M. A. Goldstein, of St. Louis, gave a talk on the Ear, Nose and Throat Work of the general practitioner.—P. M. BROSSARD, M. D., Secretary.

BOOK REVIEWS

W. B. Saunders Company, the medical publishers of Philadelphia and London, have just issued a new edition—the thirteenth—of their handsome illustrated catalogue. It contains some twenty new books and new editions, and besides numerous black-and-white illustrations, there are two color cuts of special value. We strongly advise every physician to obtain a copy—sent for the asking. It will prove a ready guide to good medical books—books that we all need in our daily work.

PROGRESSIVE MEDICINE. March, 1910. A quarterly digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College, Philadelphia. Assisted by H. R. M. Landis, M. D., Assistant Physician to the Out-Patient Medical Department of the Jefferson Medical College Hospital. Lea & Febiger: Philadelphia and New York. $6.00 per annum.

This volume of Progressive Medicine contains articles on the following subjects: Surgery of the Head, Neck, and Thorax, by Charles H. Frazier, M. D., Infectious Diseases, including Acute Rheumatism, Croupous Pneumonia and Influenza, by John Ruhrah, M. D., The Diseases of Children, by Floyd M. Crandal, M. D., Rhinology and Laryngology, by D. Braden Kyle, M. D., Otology, by Arthur B. Duel, M. D. The book maintains its high standard of excellence, and the practitioner will find in this number all the latest and most improved methods of dealing with the conditions treated of.

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ORIGINAL ARTICLES

SOME LATE OBSERVATIONS ON FECAL EXAMINATION.

By James Whitman Ousley, M. D., Kansas City, Mo.

The researches of the last years on the subject of intestinal diseases has been carried so far as to enable us to speak of a functional diagnosis of intestinal diseases just as we do in gastric diseases. It is chiefly the merit of Adolf Schmidt in Halle, to have worked out methods for a functional diagnosis, and to have systematized the whole subject. In the diagnosis of intestinal diseases we meet with far more difficulties than in gastric diseases. The stomach can be investigated very easily by means of a tube and other instruments. In the diagnosis of intestinal diseases, however, our field of work is limited almost to the examination of the feces. This has, however, been elaborated by Schmidt so thoroughly as to furnish us a fundament for an exact functional diagnosis. For such a diagnosis we require, according to Schmidt:

1. The examination of a normal feces, obtained after a test meal.
2. The choice of a method which is as much as possible analogous to that of gastric diseases. We have to get information about the function of the stomach, then to test the function of the intestines, by examining the undigested residues of food, as well as pathologic products, as mucus, pus, blood, parasites, etc. We must try to localize disorders of motility, secretion, or absorption.

The test-meal. In general the properties of a test-meal for the functional investigation of the intestines should be so that it can be taken by healthy and sick people. It has to contain the three constituents of our nourishment in a due proportion and it should be as much as possible free from ashes and still contain enough ashes as to be able to stimulate peristalsis sufficiently.

Schmidt prescribes such a diet as follows:

Milk, 1.5 liters (2¾ pints.)
Zweiback, 100 grams (3 ounces well dried toast).
2 eggs.
Butter, 50 grams (1½ ounces).
Beef, very rare, or scraped beef, 125 gram (¼ pound).
Potatoes, 190 grams (6 ounces).
Gruel, made from 60 grams oat meal (2 1-3 ounces).
Sugar, 20 grams (½ ounce).

This may be given as follows:

Breakfast: 2 eggs, half of the amount of toast and butter, 2 glasses of milk, oat meal, sugar.
Dinner: The steak and potatoes, 1-3 of the amount of toast and butter, 1½ glasses of milk.
Supper: 2 glasses of milk, remainder of toast and butter.

Although the individual ingests 1.5 liter of milk, 100 gr. toast, 2 eggs, 50 g. butter, 125 g. beef, 190 g. potatoes and 80 g. gruel, this is equivalent to 110 g. albumen, 105 g. fat and 200 g. carbohydrates, or 2247 calories.

This test is taken for a least three days in succession, until we are sure that the stool is solely originating from such a diet.

If we wish to determine the time which t takes for the feces to pass the intestinal tract, we have the patient take some carmine. As soon as feces appears with a red color we can estimate the time of the passage of a given amount of food.

The Examination of the Feces. The microscopic examination is very often sufficient for a functional diagnosis. The color of a normal stool is brown. It is a lighter brown if milk has been taken, dark brown after taking cocoa. Pathognomonic colors are tar color (blood in the feces) and clay color (fat).

The odor of a normal stool is never pungent. In pathologic conditions we notice an odor like butyric acid, or a putrid odor.

After this superficial inspection we spread the stool, after having stirred it thoroughly, on a china plate, and after adding some distilled water we stir it up to a cauce-like consistency (10 minutes). As a whole a normal stool shouud then be quite homogenous. Some particles of vegetables or fruits are of no great significance. They may originate from the food taken previously to the test-meal.

In pathologic conditions we find:

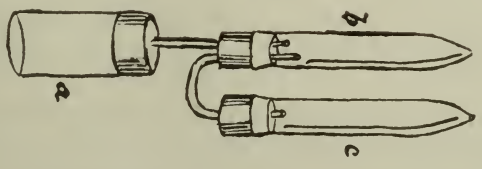
(a) Residues of food: 1. Connective tissue and tendons, originating from the mashed beef. These residues have a white-yellow color and a thread-like shape. Such a thread treated with a drop of acetic acid is examined microscopically. If it is connective tissue the thread-like structure disappears. If fibres of

tendon or of connective tissue are numerous we have to deal with a disorder of gastric digestion. 2. Muscles: They look like brown rods, can be mashed by pressure; microscopically we notice the muscular structure; residues of muscle indicate a disorder of intestinal digestion. 3. Potatoes: They appear as sago-like, glassy, transparent bodies; they project from the level of the feces; microscopically we find with iodine the characteristic blue color of starch. 4. Fat: Recognized by the light color and the clay-like consistency.

(b) Accessory contents: 1. Mucus. 2. Crystals of phosphorus, ammonia-magnesium phosphate; are mostly found in putrid stools; they are easily recognized by their coffin-shape.

For the microscopic investigation of the feces we prepare three slides. One specimen is examined without adding anything; to the second slide we add a drop of 30 per cent. acetic acid and heat it over a flame until it begins to boil; to the third slide we add a drop of iodine-potassium-iodide solution.

The microscopic picture of normal feces shows in the first slide an accumulation of granules, globules and bacteria. We notice some few



Fermentation tube, according to Strassburger.

muscle fibres, recognizable by their striated structure. Lumps of fatty acid lime of a yellow color, unstained soaps, scanty potato cells, scanty residues of the shells of oat, eventually residues of cocoa.

In the second slide we have melted the fatty acid by heat. We see the whole slide scattered over with fatty acid. The third slide is colored brown, the potato cells may show a faint violet color, however no blue color.

In pathologic cases we may find:

1. In the first slide:
   - (a) Pieces of muscles, mostly well preserved.
   - (b) Needles of fatty acid crystals and soaps.
   - (c) Globules of neutral fat.
   - (d) Copious amounts of potato cells with more or less well preserved graunles of starch.
   - (e) Eggs of parasites, connective tissue, mucus, pus, etc.
2. In the second slide (prepared with acetic-acid):
   Copious lumps of fatty acid.

3. In the iodine slide:
   (a) Starch, colored blue.
   (b) Spores of fungi, bacilli, colored blue.
   (c) Yeast cells (colored yellow), bundles of sarcina and other microörganisms (lactic acid bacilli).

In the chemical investigation of the feces we have to consider:

(a) The reaction to litmus-paper. A normal stool gives a neutral reaction or at most slightly acid or alkaline.
(b) The test with corosive sublimate. If we add sublimate to the feces, stir it up and allow it to set, the normal feces will on the next day be colored red (hydrobilirubin), whereas a green color is indicative of bilirubin.
(c) The fermentation test in the incubator. A portion of the feces is brought into a fermentation tube and mixed and stirred with water; the tube is left in the incubator for 24 hours at a temperature of 37° C.

In a normal stool practically no gas is developed. If fermentation takes place and the feces react distinctly acid, we have to deal with a carbohydrate fermentation. If the feces have become alkaline, an albuminous putrefaction is present. In the case of a carbohydrate fermentation the contents of the tube smell like butyric acid. In putrification the odor is foul.

A very practical fermentation tube has been described by Strassburger (Fig. 1). The feces is put into the part A, it is closed by a rubber-stopper, without allowing air-bubbles to remain in A. The tube B is filled with water; the tube C being open at the top, remains empty. If gas is developed, the water in B is driven into C. From the level of the water in C we can estimate the amount of gas that has been developed. The investigation for blood is carried out in the usual way.

The examination for bacteria does not strictly belong to a functional diagnosis. For a functional diagnosis it is of the greatest importance to know the significance of the various constituents of the feces.

1. *Mucus:* Mucus in the feces is always indicative of inflammatory conditions of the intestinal tract. There are, however, two exceptions; in constipation the hard scybala may sometimes be covered with mucus, without a catarrh being present. The second exception is a mucus colic, in which a profuse hypersecretion of mucus may be found.

The mucus is for the greatest part originating from the large intestine.

2. *Bile bilirubin:* Giving a green color to the stool is always pathognomonic. It is indicative of a too rapid passage of the intestinal contents. Such a stool is always colored green by adding $HgCl_2$. Normal feces is colored red by $HgCl_2$. If neither a red nor a green color appears, no hydrobilirubin is present in the feces. Consequently no bile was

present in the intestines. This would indicate an obstruction of the gall-ducts.

3. *Fat:* Fat is in every stool. It is our task to determine whether considerable amounts of fat are present. A fatty stool shows a clay-like consistency; the reaction is acid. Fatty stools are found: (a) In cases of a deficient secretion of bile or in an obstruction of the biliary ducts. (b) In disorders of the pancreatic secretion. (c) In disorders of the intestinal digestion.

4. *Residues of meat:* (a) Connective tissue; as only the gastric juice is able to digest raw connective tissue the presence of the latter is indicative of a gastric disease. (b) Muscle; the presence of muscle-fibres is indicative of an affection of the small intestine. The stomach does not play an important part in the digestion of muscle-fibres. The greatest part of the latter is digested in the intestines. Now several intestinal secretions are active in the digestion of muscle-fibres. A defective digestion of muscle-fibres may be due to a lack of pancreatic secretion, activating enterokinase of the secretion of the small intestine, to an increase of peristalsis, or finally to a disturbance of absorption. The appearance of muscle-fibres in the feces does not allow any conclusion as to the true nature of the disease. We can, however, state positively that the small intestine is involved.

5. *Residues of carbohydrate.* The presence of starch indicates an affection of the small intestine.

The functional diagnosis has up to date unfortunately failed to give a sufficient method for testing the motility. Probably the most reliable method is the use of the Röntgen rays after feeding a food mixed with bismuth subnitrate. It is however, as we have seen, pretty elaborate in investigating the secretory conditions. For the secretion of the pancreas there are in addition three direct methods, viz: Sahli's method with glutoid capsules, Schmidt's nuclear test, and the urine test of Cammidge.

1. *The glutoid test of Sahli.* If gelatine capsules are treated with formaldehyd they are hardened and thus protected against the digestive action of the gastric juice. Such capsules, so-called glutoid capsules, are filled with iodoform. As soon as the pancreatic juice opens the capsules, iodofrom is resorbed very rapidly and the saliva of the patient shows at once an iodine reaction. The disadvantage of this test is the fact that the capsules are sometimes even too hard for the pancreatic juice. (*Deutshe med. Wochenschrft,* 1899, No. 1.)

2. *The nuclear test of Schmidt.* (*Kongress f. innere Medicin* 21, 1904, p. 335). This test is based upon the fact that nuclei of cells are only digested by the pancreatic juice, however not by the gastric juice. Schmidt has the patient eat a small piece of meat wrapped in a small bag of cotton gauze. This bag is easily found in the feces and the contents of it is examined for nuclei. Einhorn (*Archiv f. Verdauungskrankheiten* 13, 1907, p. 475) recommends a piece of thymus instead

of meat, since thymus is very rich in nuclei and does not necessitate a troublesome hardening and staining of the preparation.

3. *Cammidge's reaction.* (*The Lancet,* 1904, 19 111, July, 1905). This test is based upon the transition of certain products of breaking down of pancreatic tissue into the urine. The method is, however, too complicated for practical purposes.

The elaborate system of functional diagnosis worked out by Schmidt has furnished a working basis of a pathology of intestinal diseases.

PLACENTA PREVIA.*

By R. T. Henderson, M. D., Jackson, Mo.

Every physician doing a general practice dreads to encounter certain disorders. Only a few years ago the call to attend a case of croup was an unwelcome one, for the stoutest heart quailed at the thought of a midnight encounter with the relentless strangler, who, despite every effort of the doctor, so often choked out a precious young life—breaking at the same time some mother's heart. Few of the older men here can not recall some experience of this kind, some hour between midnight and dawn, when, with a woman's pleading for help twisting their heart-strings and a suffering child's gasps growing fainter and less frequent to their ear, they have questioned the efficacy of medicine, and determined to adopt some calling less productive of premature gray hairs. To-day the doctor fears croup no more than he does measles—the discovery of iodized calcium providing him with a weapon which, resolutely and skillfully wielded, will rout the disease nine times out of ten. Eclampsia, with its sudden and terrorizing convulsions, has perhaps caused fully as much dismay as croup. The young accoucher suddenly confronted with a typical seizure has undoubtedly wished fervently that he could grab his hat and run, or having sent for counsel (like the hero of Waterloo) has prayed earnestly that reinforcements, or the child, would come. And even to-day the experienced and fully equipped obstetrician grows grave when eclamptic conditions present; for, occasionally, despite the most scientific and heroic treatment, death wins the fight. However, the pathologist and the chemist have lately thrown such a flood of light upon the intricacies of the body chemistry, that we are able almost positively to prevent the occurrence of eclampsia; provided, of course, the woman places herself in our hands early enough and takes enough interest in her

*Read at the meeting of the Cape Girardeau County Medical Society, November, 1909.

own welfare to report with a specimen of her urine every three or four weeks.

Preventive medicine, we are beginning to realize, is, after all, well worth our most earnest attention, but there are conditions which cannot even be suspected and unhappily one of the most disastrous—placenta previa—often first makes its existence evident by a furious hemorrhage, which, unchecked, may detroy the life of mother and child within ten minutes. Fortunately this is not a common disorder, but one can never tell when he may encounter a misplaced placenta, and it behooves every physician to not only know what can be done under the circumstances but to have a definite idea of the procedure he will adopt should it be his illfortune to meet with a case. I recall the experiences of a friend, as follows: "Being sent for, some years ago to go to a house not far distant from my office, the boy who came for me urging extreme haste; indeed, so anxious was he that I should go, that he begged me not to wait to get any instruments or medicines, not even my hat. All he had to say was, 'Hurry, Doctor, please do hurry, Ma's dying, I know; Oh! won't you *please* run.' He couldn't tell me just what form of disaster had overtaken his mother, but his bearing convinced me that affairs were urgent. So, grabbing my utility satchel and a pocket case of emergency remedies, I *ran*. On entering the room I found a woman of thirty stretched on the bed, from which blood was running to the floor. This was uncarpeted, and the thin red stream had already covered half the distance between the foot of the bed and the door. A glance at the face showed fearful exsanguination; the woman could not speak and the barest flutter of the heart was discernable. I threw off my coat, turned up my sleeves and pouring into the hollow of my hand a few drams of ethereal tincture of soap entered the vagina, and acquainted myself with uterine conditions. I found a partial dilation—the bunched fingers were easily inserted—a centrally implanted placenta and a breech presentation (at least I determined that it was a breech, and two minutes later on penetrating the placenta and rupturing the membranes I confirmed the diagnosis). I had no assistant, the woman was unconscious; the room was cold (I was not), and in answer to my request for boiling water, the boy called from the outside that 'he'd go to the next house and get some.' Just as I had brought down one foot he arrived with the water in a pint pitcher, and a neighbor woman. She, upon seeing the condition of things promptly shrieked and fled. Five minutes later, when two legs were down, and I was wondering whether I had one death or two on my hands, two more women appeared and one of them had common sense enough to turn in and help *do* things. Between us we later on delivered a female child, who is now very much alive, and removed a very large thin placenta (placenta membranacia), finally cleaning up the woman and removing her to another bed, where two hours later she showed signs of returning vitality." The loss of blood in this case was enormous, and I am quite sure that life was maintained only by the

copius injections of saline solution and free exhibition of atropine and strychnine. A few moments' delay would have resulted in the death of both mother and child; and any hesitancy, or attempt at cleaning up or tamponing would have been fatal also. In desperate cases of this kind one must act first and think while acting. Moreover there must be no mistakes, the right thing and only the right thing under the circumstances existent can save the situation. All cases of placenta previa are not quite as disturbing as this, but each and every one calls for skill, presence of mind and prompt action.

I will not attempt to describe the varieties of placenta previa further than to say that implantation in the lower uterine segment may cause the entire occlusion of the os internum (placenta previa centralis) or merely partially obtrude upon that orifice (placenta previa lateralis). The textbooks state that the marginal form is encountered eight times where the central variety occurs once. One observer records one central to twenty-five marginal; another twenty-six central to one hundred and fifteen lateral.

It is impossible, of course, to estimate the number of premature births which are caused by improper placental growth, but leaving these out of the question it is safe to estimate one case of placenta previa in every seven hundred deliveries, at term. In maternity hospital, where ill-nourished women are delivered, the proportion is much greater.

Some men may practice their entire lives and never see a case, or at least a severe one; again the very first case the young doctor may be called to, may turn out to be placenta previa centralis. Usually, in order to correct or control a pathological condition it is necessary that we understand fully its etiology. "The right remedy for the condition present" is a maxim which should be faithfully adhered to, but in this instance we must be content with the knowledge that for some reason the placenta occupies the lower instead of the upper uterine segment, and its mass therefore offers a more or less formidable obstruction to the descent of the fœtus. Moreover, as dilation occurs and downward pressure increases, the placental adhesions are loosened and hemorrhage results. Not infrequently a warning hemorrhage occurs after the fifth month, and in some instances women have bled copiously at short intervals without realizing that anything was seriously amiss. Such patients are apt to cause, later on, a very great deal of trouble to the attendant physician.

It is necessary that we distinguish the hemorrhage which results from placenta previa from any bleeding having its origin in an injured, partially detached, but normally situated placenta. In the first instance the hemorrhage may be unavoidable, for at some time, more or less abnormal loss of blood must result; in the latter case, the existent hemorrhage, once controlled, no further trouble need occur. This is an accidental hemorrhage.

The idea that the abnormal implantation is due to the falling of the placenta from its usual site early in the pregnancy has been entirely ex-

ploded and we now know that the ovum becomes attached in the lower portion of the uterine cavity growing there often, just as successfully as in the proper location. Further, there may be reflexal placental formation, with degeneration changes in the reflexa and adjacent villi. This condition has been minutely described by Peters; and Webster in his excellent chapter on placenta previa, deals very fully with the subject. This condition is of interest, for the reason that as changes in the pregnant uterus take place the degenerated reflexa is apt to give way, hemorrhage and abortion resulting. It is more than likely that a great many abortions and miscarriages may be attributed to this condition. In my opinon a reflexal placenta previa rarely persists till term; we have then to deal with an entirely normal, but faultily placed placenta, the ovum having been fertilized in, and becomes attached to the lower uterine segment. To the obstetrician, interested chiefly in the practical side of the subject, it matters little whether the mal-position be central, marginal or lateral, if intractable hemorrhage occurs early in the pregnancy the uterus must be emptied; if, however, the woman proceeds to term, or thereabout, before hemorrhage sets in, the object in view is the safe delivery of the woman and (if possible) a living child.

Recurrent hemorrhages during the last nine weeks of pregnancy may be regarded as presumptive evidence of a placenta previa, but as has been stated, occasionally the pregnancy progresses normally till dilatation, and expulsion pains set in (and in these cases we meet with serious hemorrhages), but even more appalling conditions present when suddenly, some six or eight weeks before term (often at night and without known cause), the pregnant woman finds herself bleeding profusely. The slightest movements augment the flow, and not infrequently the patient is almost exsanguinated before medical aid can be secured. Again, a sharp hemorrhage may follow some slight exertion, the flow ceasing in a few minutes or dwindling to a mere dribble which may persist for days. Some women expect more or less hemorrhage during the last two months of pregnancy, and only send for a doctor if the flow becomes alarming. It is a fact that a tendency to placenta previa runs in families, and a friend informs me that he has records of almost fatal hemorrhages occurring in the persons of a mother and two daughters early in the eighth month. The mother had borne eight prior children without difficulty; the elder daughter was the mother of one child normally delivered; the younger was bearing her first infant. She has never conceived since. In every case the hemorrhage came on without warning and in the middle of the night. Fortunately, however, multipara are more likely to suffer from this disorder; and having experienced, they realize the gravity of the symptom and send for aid promptly.

The mortality accompanying placenta previa necessarily varies greatly. Occurring during the first six months, the hemorrhage, though it may be severe, is rarely fatal; the fetus, unfortunately, is however rarely saved. Nearing or at term, prompt and skillful intervention means everything;

hence, in country practice the maternal mortality is often high, the physician being unable to reach the patient before she becomes exsanguinated. In such cases the child often survives. In cities and more populous localities the maternal mortality does not exceed twenty-five per cent., though one authority gives it as fifty per cent. The average mortality among American women, hospital inmates excepted, may be placed at thirty-five per cent., the infant mortality probably does not exceed fifteen per cent.

The most interesting feature of the subject to the practitioner is treatment. If a woman is pregnant and experiences a sudden hemorrhage, it is absolutely essential that an examination be promptly made. The extent of the bleeding will serve to indicate the degree of haste necessary. If the flow is steady and considerable blood has already been lost, rapidly clean thehands,wash off the external genitalia, and assure yourself of the uterine conditions. If the *os* is dilated at all—and it usually is—the placenta can be easily felt; moreover ballotment can not be obtained, and the fetal parts are not distinguishable. Under such circumstances the diagnosis of placenta previa may be positively made. Where the implantation is central the peculiar bogginess will be felt in the posterior and anterior fornices; if it is marginal, however, only one fornix will present the abnormality; in some cases, indeed, where the attachment is markedly posterior, the finger fails to detect the placenta at all until inserted well within the internal os.

Personally, I am not particularly anxious to make a thorough examination in even the less serious cases; infection is very apt to follow undue handling, and it matters very little to the accouncher just where the placenta site is, provided it encroaches upon the lower segment and obstructs delivery.

The bleeding during examination (which need not take many minutes or seconds in the worst cases) will continue, and as the physician works he should ask questions, ascertaining, if possible, the date of expected confinement. If pregnancy has advanced to such a stage that the fetus is viable it is necessary to determine whether it is best to dilate and deliver, or adopt palliative measures. If the termination of the pregnancy would inevitably result in the death of the fetus it is well to try tamponade, rest and elevation of the pelvis; provided, of course, the hemorrhage is not too serious and the woman is so situated as to receive proper care and prompt attention if the bleeding persists. It is in these early hemorrhages that experience and skill mean much. When the younger and inexperienced man would proceed to empty the uterus (at the expense of the child's life and considerable risk to the mother) the seasoned obstetrician tampons snugly, elevates the hips, enjoins absolute quiet an administers small doses of hyoscine and morphine, with perhaps hydrastin. Not infrequently the woman so treated goes along with perhaps slight or more severe hemorrhage at intervals, to or near term, being delivered finally of a living child. I would like to caution

here against the use of astringents. We have to deal not with a local relaxation of abnormal blood conditions, but with a distinct tearing of tissues—intrauterine. It is not desirable to cause the formation of a cervical clot, neither should we dam back the blood into the uterine cavity. Our aim should be to relieve the condition which causes the hemorrhage; this we may often do by packing snugly the fornices with wool or soft gauze (I prefer the long wool strips which can be obtained in these days), raising the pelvis above the thorax, and reducing the blood pressure in the affected area. No drug known to me exerts so positive and prompt an effect as atropine, although hyoscine and morphine maintain the effect and also tranquillize the patient. I give gr. 1/250 of atropine as a first stop in nearly every case, substituting hyoscine, morphine and cactin in fairly controllable cases when I propose to empty the uterus at once. In terrific hemorrhages the atropine always.

The imaginary case we have on hand has not reached term and the hemorrhage, though severe, is not essentially dangerous. We decide to plug and await developments. Wool strips we may not have on hand. So we take strips of antiseptic gauze or clean old linen, and firmly pack about the cervix well up into the fornices, and continue until the vagina is snugly filled. If the strips are buttered with vaseline and dusted with an alkaline antiseptic powder we can leave them in longer, and have less fear of sepsis. Some intelligent person must be left in charge of the woman and receive instructions to send for us if any quantity of blood escapes from the vaginal orifice, or pallor and faintness are noted. If hemorrhage persists in such a case we will have to deliver. On the other hand, if in eight or ten hours things are in a satisfactory condition, we should remove the packing very gently and replug, keeping the woman on her back for several days; tampon afresh every 24 hours. If after a week hemorrhage is absent we may allow some exercise, but exertion should be absolutely forbidden. It is a question whether medicines can be of much service at this stage, but I always order hydrastine, aletrin and caulophyllin, gr. 1/6 of each, every four hours, and my results warrant the procedure. I also apply a snugly-fitting abdominal binder, so gored and stiffened as to lift up the uterus and its contents. I keep a sharp lookout in such cases and always instruct the family to send at once for the nearest physician (with whom I try to be in touch) if hemorrhage recurs and I am not immediately available. Moreover, where it is possible, I have a nurse always in the house and she tampons, administers atropine and elevates the patient's pelvis at the first sign of trouble. In all such cases it is essential that the woman have highly nutritious, easily digested food and keep her bowels open by the use of salines. I might state here that I invariably place the woman in the knee-chest, or lithotomy, position when tamponing—it is not a bad idea to have her adopt this position the minute hemorrhage is experienced. I have reason to believe that I have saved two lives, at least, by ordering the prompt assumption of this position. In one case the woman began to flood while

removing a pan of bread from a low oven; she dropped the pan, assumed the knee-chest position and her sister (who acted as nurse) promptly called me up and tamponed. When I arrived bleeding was profuse, but I delivered a live child within the hour, and after a tedious convalescence the mother recovered.

Now I will consider the more terrifying and serious type of hemorrhage which occurs when a healthy but abnormally located placenta begins to separate from the uterine wall, owing to descent of the fetus or dilation of the lower segment. I have already stated that a reflexed placenta previa makes its existence evident earlier. If we have had prior hemorrhage we shall be prepared; but if, as often happens, we are rushed for the first time to the bedside of a woman who is flooding furiously, we shall have to do the best we can—and this ought to be a good deal. Assured that the fetus is viable and pains present, we had best empty the uterus just as quickly as we can, for every minute's hemorrhage means much to the woman. If dilation is slight it is in my opinion, useless to tampon in the hope that we may secure better conditions, for at this stage such procedures will often not check the hemorrhage, and rarely hasten dilation. We must be as clean as we can (losing no time in the refinements of asepsis) and proceed to dilate. If we can not, we must use the metal dilators, or the Champetier or Ribes' bag. Personally I have never used the latter contrivance, and consider it more suited to hospital than ordinary practice. However, it has its ardent admirers. A most efficient dilator with three separate sets of tips has quite recently been introduced by Prof. DeWees. In this instrument the four blades are inserted closed, and an equal distension is rapidly secured by turning a milled head on the handle. Full dilation can be secured with this instrument in five to ten minutes. Laceration can hardly occur, as the blades are curved at the extremity, broad and rounded. Dilatation must be done if the cervical opening will not admit the fingers easily. Sometimes we have no dilators, no Champetier bag, or anything beyond our digits, and therefore we should know how to use them. First, stretch with the two fingers, then insert the thumb, and when all possible room has been gained, slip in the fourth and finally the little finger, gradually spreading the tissues till the entire hand can be easily inserted. If it be possible to slip past the edges of the placenta, do so; if not, penetrate it, but do not rupture the membranes beyond, as the amniotic fluid makes version difficult. These procedures are not required if the attendant possesses a Barnes or de Ribes bag, and is sufficiently familiar with their use to plug the cervical canal effectively till dilatation is sufficiently advanced. I need not dwell here upon the method of using either appliance as every text-book gives the proper technique. Dilatation being secured, with one hand pressure should be made upon the fundus, so that the presenting part of the fetus can be surely recognized. If the breech be encountered the fingers are thrust through the membranes, and one or both feet seized; steady traction is then maintained, the oncoming

buttocks serving as a most efficient plug; in very many cases, delivery proceeds without further undue hemorrhage. The method of delivering the fetus so presented is of course known to you all. It may be worth while to caution, however, against carlessness; not for a moment should the traction be relaxed; and it is advisable to have an assistant make pressure steadily—especially during the pains—upon the upper pole. It is not desirable either to lose much time searching for both feet; if only one is immediately available grasp it and bring it down through the cervix; the other extremity will follow later, or can be secured; at the moment, we are most desirous of making pressure upon the bleeding placental site. With patience (and maintained pressure) we may feel fairly sure of delivering the child alive. If we have to deal with a transverse presentation, and we will usually discover the existence of this condition by abdominal palpation, we must insert the one hand through the placental tissues but not through the membrane, and perform version as rapidly as may be. The external hand aids greatly by pushing upward and backward the undesired pole. I invariably try to bring down the feet. As soon as proper position has been secured, rupture, grasp a foot or the feet, and proceed as already suggested. Not infrequently there is considerable difficulty in delivering the after-coming head; here again, however, patience works wonders, especially if two fingers are insinuated up along the neck and made to pull back the cervical tissues. This difficulty is not encountered when the faulty location of the placenta is made evident only after normal labor has set in. It is my opinion that by far the safest course to pursue in the class of cases under discussion is, to dilate—digitally or with instruments—until the hand can be inserted into the amniotic cavity, to grasp then a foot, bring down one or both legs, and wait for nature (aided somewhat by the attending physician) to do the rest. After this, too much haste is almost as undesirable as lethargy earlier, for it is not impossible to tear the cervical—or even the lower uterine—tissues severely by too persistent or too rapid extraction.

It might aid some to remember that the first thing to do in all cases of placenta previa is, to ascertain the extent of cervical dilatation. If bleeding occurs earlier than the eighth month, or if the os will only admit one finger, plug and await developments. If the woman is near term but os is undilated, plug; apply in each case a tight binder and elevate hips. If you can get two fingers through the internal os, dilate digitally till you can do an internal version—or if you can do a Hick's bipolar version, do it without dilating further. In each case you bring down the feet and thus compress the bleeding area, thus saving the woman's life and quite often the child's. Where the os is, or can be, rapidly dilated fully, deliver as quickly as possible—with or without forceps—and immediately thereafter insert the hand and remove the placenta.

To do a bipolar version it is desirable that the woman be anesthetized, but here again we cannot always do what is desirable. If we

can give hyoscine, morphine hypodermically and follow with a whiff of ether or chloroform, we should do so; the woman is always to be placed across the bed and the position of the fetus definitely learned. It is, as I have said, not a difficult matter to secure a foot if the breech presents or a transverse presentation exists. It is not, however, always easy to get a foot through the internal os with two fingers in the amniotic cavity, even with the other hand making pressure outside. In such a case pass a bullet forceps with the left hand into the uterine cavity and (using the fingers as a guide), grasp the extremity and pull it down. If you are wise you will loop a piece of gauze around the ankle; thus traction can be secured at any moment. If by error a hand is pulled through, tie a long strip of gauze to the wrist and push the arm back. Later you can prevent extension of the limb by traction upon the strip.

In city practice the use of the Ribes' bag has to a certain extent done away with the necessity for such procedures. It is not at all difficult to insert the bag through an os which will only admit a single finger. It is filled after insertion, and of course hemorrhage can be very positively controlled till normal labor occurs. In country practice, however, the bag is rarely at hand when wanted; moreover the country doctor generally gets to his cases of placenta previa to find immediate delivery imperatively necessary. He has then to choose whether he shall run the risk of dilating a soggy cervix, and do an internal version or a bipolar. In my own practice I have been able to dilate, insert my hand and bring down the extremity (one or both) in all but one instance, and then I did a Hick's bipolar, the woman being delivered two days later of a dead male child. I believe for the average man it is safer to tampon and wait, where there is too slight dilatation to permit the entrance of two fingers at least; if he can insert three it is not difficult to insinuate the thumb and secure a foot in breech cases.

To do a bipolar verion successfully it is essential that the accoucheur be able to distinguish the fetal parts and it is advisable to study the feet, hands, knees and elbows of every new born child.

Only by practice can we become perfect.

THE PROPHYLAXSIS OF TYPHOID FEVER.*

By A. F. Willier, M. D., Springfield, Mo.

The medical profession constitutes the chief safe-guard of the health and, indirectly, the welfare and prosperity of a nation. This fact is continually being demonstrated, especially at our large sea-port towns, when, at various intervals, serious outbreaks of a contagious and virulent disease or plague is threatened. Then it is that the unbounded activity of the local boards of health, ably assisted by the self-sacrificing efforts and often gratuitous services of the individual members of the medical profession, render a service to the country the value of which can never be overestimated. The loss of lives prevented, the expenditure of large sums of money made unnecessary, the general paralysis of business averted, but above all, the ability of the medical profession to cope successfully against an evil, which could cause more devastation than war and famine combined, all is clearly demonstrated.

In striking contrast to the usual zeal and activity of the medical fraternity in the threatened appearance of some form of pestilence or plague, is their general apathy and seeming indifference to an invasion that annually carries off 350,000 people in the United States. While typhoid fever, with its great variety of changing symptoms, variable courses and serious complications, its different sequelæ and terminations, has, perhaps, first place in clinical interest for us, still it is to its prevention that we must devote the greatest attention. A disease now more of smaller communities than of the larger cities, its control offers many difficulties, still its stamping out is one of the greatest problems before the medical profession of this country. Its great sacrifice of human life and enormous percentage of morbidity in the United States alone is appalling, and yet we are not justified in styling it a non-preventable disease. In 1900, it is estimated, there were 350,000 cases of typhoid fever in this country, 35,000 of whom succumbed to the ravages of the affection; the death rate being 33 per 100,000 population, the mortality being 10 per cent. This is double the rate in England and about three times the rate in Germany. It is true the mortality is slowly decreasing, but we are justified in making this statement regarding any of the severe infectious or contagious diseases. Every patient with typhoid fever means infection from a previous case. If thorough disinfection had been carried out in every case of typhoid fever last year and the same this year, there would be a very large decrease in the number of cases for the following year.

*Read before the Greene County Medical Society, March 11th, 1910

A rational system of disinfection together with isolation constitute our most potent means of combating this, as any other infectious disease. A rational system of disinfection is based upon a definite knowledge of how the disease is spread and upon peculiarities of the infectious agent. Disinfection, in typhoid fever, if an attempt is made to comply with this precaution, is generally left in the hands of people, with vague instructions, who do not realize the importance of its being done thoroughly; accordingly it is done, if at all, often in a careless or shiftless manner. Too often does the medical attendant fail to realize his own responsiblity in this respect; he is entirely contented if he brings the patient safely through the attack, heedless of the danger that may befall the community. This is a deplorable fact, nevertheless the statement remains true. The situation reminds me of the public's attitude in the presence of a large fire, they run to it, but always walk back. We are generally most zealous in piloting the patient through his weeks of illness, but only too often careless or indifferent in attempting to prevent any other or fresh infection. In fact we are entirely illogical in our attitude toward typhoid fever; we consider an ounce of cure worth many pounds of prevention. A city is exposed to infection year after year and little is done for the many, but for the individuals with the disease, hospitals, physicians, nurses and attendants work every hour in the twenty-four. How much better to remove the necessity, or strive at least to take preventive steps to guard against the infection. We in America, especially, should be interested in stamping out typhoid fever, since it has gained such a foot-hold here, Osler writes: "Of no other disease can we read as full a history from American sources alone." Reports of typhoid fever in a city may be taken as a safe indicator of its sanitary status. On the same principle it has been found that whatever tends to better the sanitary arrangements of a city, diminishes to a corresponding degree the prevalence of the disease, particularly improvements affecting the water supply and drainage.

The character of the water supply and the means of disposal of the excreta must be regarded as the most important factors which influence the occurrence of the disease in communities, while filth, bad hygienic conditions and crowding have a certain effect. But under any condition or climate, the essential factor which governs the occurrence of the disease is the manner of disposition of the excreta. The most important part of the typhoid fever problem is its prophylactic consideration. The etiology, pathology, symptomatology and diagnosis are well known; in the treatment we can do very little, but in the prophylaxis much remains to be done. We willingly give our time and attention to the patient with the disease, but generally fail to carry out sufficient preventive measures. We hold that infected water and milk are some of the principle causes of the disease, but we are prone to overlook the fact that these are but some of the results of a previous case that did not receive due attention. The typhoid fever bacilli do not naturally inhabit water and milk, although it is true they may exist in them for a while and even mulitply, but the

natural abode of the bacilli is in man himself, the water and milk merely serving as carrier from host to host. If it were possible that every typhoid fever bacilli might be killed on leaving the host, the disease would be at an end. But there are many difficulties that stand in the way. Many cases of typhoid fever are of such a mild variety that a diagnosis hardly seems warranted, such cases being unrecognized sources of danger. Again the disease seems to have gained such a foot-hold in this country especially, that its stamping out would appear well-nigh hopeless, in fact it might seem useless to begin the struggle. Still every thorough measure of prophylaxis counts, and when it is considered how easy it might have been to prevent epidemics had the proper care been exercised with the first case, there is much to encourage the medical profession to be on guard with each and every following case of typhoid fever. Practitioners who absolutely disregard all prophylactic measures in treating their cases, merit the censure and reproof of the local societies; moreover, the local board of health should investigate such inability or ignorance and act accordingly. It can not be estimated how many cases of infection may be prevented by thorough disinfective measures with one patient, but it can often be estimated how many cases of infection arise from one patient whose excreta has not been properly disinfected. Especially does this apply in small communities. The history of a typhoid fever invasion is often like that of a large fire—a small beginning with increasing and disastrous extent. This is strikingly demonstrated in the case of a typhoid fever patient living in the vicinity which yields the water supply of a town. To disinfect properly his excreta involves very little work, but allow the water supply of the community to become contaminated from him, and thousands may become exposed to the infection, and prevention then may involve elements and circumstances practically impossible to control.

The prophylaxis of typhoid fever may be considered under two heads: (1) General sanitary measures for the protection of the community at large, and (2) special measures in connection with the patient. The general measures of sanitation properly belong to the domain of public hygiene or boards of health, but much can be attained by the private practitioner. The problem resolves itself into the supply of pure food and water. There is no country that is entirely free from the danger of a typhoid fever invasion, and the water supply is everywhere a most important element, as has been proven by the lessened mortality of cities from typhoid fever after a system furnishing pure water has been introduced. Typhoid fever is, in the majority of cases, a water borne disease, the water being infected directly by sewage and indirectly by saturation through the ground from out-houses; careful inspection, therefore, and regulation of the area from which the water supply is derived, and particular care of the water after it has been collected by means of filtration, should be sought. The importance of maintaining all public water supplies at the highest degree of purity and wholesomeness is well recognized.

Municipal ownership of water works, as being more conducive toward securing this standard, is hereby favored. Wells in country places should be situated far from any source of contamination; they should be deep and protected from surface water; even then they are a menace to the neighborhood. Wells in the city, I am of the opinion, should be heartily condemned, especially where other water can be procured. Sewer connections to all out-houses or closets should be compulsory in all places where a sewer system is established. The most likely food to convey infection is milk, introduced by infected water being used to cleanse milk-bottles, etc., or by being added to the milk for economic purposes. The milk supply of a city should be under the inspection and control of local sanitary authorities. Boiling will destroy all germs, but not so freezing; ice cream may thus carry the infection past most of the ordinary defenses. Vegetables washed in infected water, or fertilized with sewage, oysters and other food articles, serve also as conveyors of the disease. Good drainage is also an important factor in the prevention of typhoid fever in cities and towns. When the streets and alleys are kept free from garbage, manure or other impurities, the liability to typhoid fever is lessened since the bacilli grow much more rapidly in soil saturated with sewage. Air borne contagion is not a remote possibility, inasmuch as the germs may be diffused in the dust of dried excreta and light on exposed articles of food. Flies are also a carrier of the bacilli, especially in armies. It is apparent that as regards the danger from the above sources, the ordinary individual can do little to diminish it. He may see that his water and milk are boiled before using during an invasion of the fever, and may exercise even the greatest possible caution in the preparation of all his food, but to control absolutely the entrance of any typhoid fever bacilli into his system, he is powerless. How much more important and simpler, therefore, to control the dissemination of the bacilli at their source, as this and this alone strikes at the root of the evil. During an epidemic of typhoid fever every care should be taken to boil both water and milk before using and all possible sources of infection through either of these should be watched and guarded against; all uncooked food should be regarded as dangerous. I am of the opinion that typhoid fever should be handled, in connection with the medical attendant, by the local board of health, or at least under their control, as is done with scarlet fever, smallpox and diphtheria. There is a great cry of distress raised by the public, when the knowledge of an existing case of smallpox becomes known, yet an epidemic of typhoid fever seems hardly sufficient to warrant their attention. The medical fraternity, too, becomes slightly flurried when smallpox invades their neighborhood, while the annual invasion of typhoid fever is only of passing importance. Yet, in the State of New York, for example, where sanitary conditions are as good or perhaps better than in the majority of other states, in 1907 there were 1702 reported deaths from typhoid fever, while there were only 10 reported deaths from smallpox. It seems the public at large refuse to accept the danger and

seriousness of a typhoid fever affection. Compare the public attitude toward a patient with typhoid fever and toward one with smallpox or diphtheria, and we have the explanation of many of the difficulties. It is the old story of familiarity. I believe the local boards of health, acting in connection with a public or national board of health, were they properly empowered and, more effective still, properly paid, could greatly assist in lowering the mortality of typhoid fever. They could isolate the patient suffering from the disease, which is of primary importance; they could more properly and effectively enforce thorough disinfection, which is of the greatest importance. It can not be doubted that typhoid fever, under their regime, would rapidly decrease, for every patient properly handled one year would mean fewer cases to care for the following year.

Of more importance than the general measures, just referred to, would we attempt to stamp out the disease, are the special measures to be observed in connection with the patient suffering from the affection; for until the medical profession realizes its importance and, what is more, carries it into practice, the prevention of typhoid fever is more or less hopeless. In brief, these measures consist in the isolation of the patient and the disinfection of the excreta (stools, urine, vomitus and sputum). Complete isolation of the patient should be sought, special wards should be provided in hospitals, and in private homes special apartments should be reserved for the patient, and none but the attending physician and nurse should enter, since the attendant may carry the bacilli directly by handling food or drink, which in turn may be given to healthy members of the household. If extreme care is not exercised, the excreta may become dry and scatter about or be carried by flies to meat and milk and there multiply indefinitely. Dried bacilli may also be inhaled and swallowed. There is, too, incontestible proof that typhoid fever is slightly contagious. The sick room should be kept absolutely clean, well ventilated, free from all unnecessary furniture, screened to keep out flies, and have a sunny exposure if possible. The patient should be sponged regularly and all soiled clothing at once removed. He should, at all times receive careful attention, and after each movement of the bowels, the anal and sacral regions should be cleansed with a disinfectant solution, carbolic acid 1-40 or bichloride of mercury 1-1000. After micturition, or if any urine has been spilled, the same thing should be done. The physician and nurse should cleanse their hands with a mild antiseptic solution after attending the patient. But it is to the importance of a thorough disinfection of the urine, feces, sputum, vomitus and bed-linen that this paper is primarily directed, since the value of their disinfection is of paramount importance in considering the prophylactic or other treatment of typhoid fever, striking, as it does, at the root of the evil. This is by far the principal prophylactic measure of the typhoid fever problem. Although, being of the greatest importance, only too frequently does it receive the least attention. As already mentioned, too often does the medical attendant fail to realize his own rsponsibility in this respect; his entire aim and goal, laudable as

far as it goes, being to bring the patient safely through the attack, heedless to the general havoc that may be wrought to the community by his failure to make any effort to disinfect the excreta of his charge. During the epidemic of typhoid fever in our city last year, I am familiar with one case, a very virulent attack, from which as a failure to disinfect the excreta, they being carelessly thrown in an out-house, four other people contracted the disease as a result of drinking water obtained from a well on the same premises. Each individual case of typhoid fever should be regarded as a focus of infection and handled accordingly.

Stools. The proper disinfection of the stools is a difficult matter, as the bacilli may be contained in a mass of fecal matter which is penetrated with difficulty. It is always well to place a pint or more of the disinfectant solution in the bed-pan before it is used, adding a sufficient amount afterwards to completely cover the stools. The solution and feces should be thoroughly mixed, the solid masses being broken up with a glass stirring rod, the mixture then being allowed to stand for three hours before being consigned to the toilet or closet. All excretions should be received in a vessel that can be thoroughly disinfected inside and out. The feces may be disinfected in any of the standard solutions, as milk of lime, chloride of lime, bichloride of mercury or carbolic acid; the latter one being perhaps preferable since it is easily obtained and as easily made to the proper strength, and accordingly the chances for mistakes are few; it is used in the strength of 1-20. Disinfection of the stools should be carried out until the patient is convalescent.

Urine. The disinfection of the urine is often neglected even when the stools receive the proper attention. Because of the frequency with which it is voided, its comparative inoffensiveness, its easy dissemination and the relatively great number of organisms present, infected urine may be even the most dangerous excreta of the typhoid fever patient. Nurses and attendants should be taught that the urine may contain typhoid bacilli at any time, and is a constant source of danger to themselves and others. Urotropin internally has a good effect in destroying the bacilli in the urine. Carbolic acid and bichloride of mercury are the more common solutions used for the disinfection of the urine; they are used in the same strength as for the disinfection of the feces. The urine may be poured in a vessel in which the disinfectant solution has been placed, the latter always being in excess, and the mixture allowed to stand for two hours before being thrown out. The urinal should be kept in a disinfectant solution when not in use. The urine should be disinfected until the patient is convalescent, and no patient should be discharged from observation while the bacilli still remain in the urine.

Sputum and Vomitus. Handkerchiefs and cloths which are used for receiving sputum and vomitus, should be placed, for at least one hour, in boiling water, before being sent to the laundry. But for catching the sputum and vomitus, and for cleansing the mouth and nose, it is best to use gauze cotton rags that can be burned after using.

Clothing. When removing linen, whether at the daily change or from soiling, it is always best and safest to disinfect with a carbolic acid solution 1-40 as a matter of routine, as at times it is difficult to say whether they may have been contaminated or not.

Individuals who have had typhoid fever should be instructed as to the danger of disseminating the disease by their lack of personal cleanliness, they should be instructed to wash their hands carefully after urinating and defecation. In fact, habits of general cleanliness, by all people at all times, should be encouraged. The dangerous character of public objects, from which there is a possibility of infection, as from door-knobs, telephones, hand-rails, public seats in the theater, cars or park, should be brought to the public mind; warning as to the cleanliness of the hands and fingers before eating after handling these objects, advising against the habit of putting objects, as money, in the mouth, and the danger of infection from public drinking cups, should be made known. All those who are attending a typhoid fever patient should be careful to disinfect thoroughly their hands after caring for the patient. Before eating, the attendant should be certain that his hands and fingers are not contaminated with any of the discharges. It is always advisable to use hot water and soap, followed by a bichloride of mercury solution 1-1000. If possible, the one in charge of the patient, should have nothing to do in the preparation of the food for the rest of the family; in fact he should remain away from the kitchen entirely if circumstances will permit. In cities, where a proper system of sewerage is maintained, some difficulty is usually experienced in having all excreta thoroughly disinfected, since the general public feel that the germs are to be carried where there is no chance of their doing harm. We can not be sure of this in any case; oysters may be fattening close to the outlet of a sewer, water-cress may be growing along the sides of a near-by or connecting stream or its innocent looking water may be used in washing vegetables or in cleansing cooking or eating vessels; moreover, it is our duty as physicians to destroy every bacilli, no matter where it otherwise might go.

Within the last few years, attempts have been made to shorten the course of typhoid fever by subcutaneous injections of a sterilized liquid made from the cultures of typhoid fever bacilli. It is yet too early to predict to what extent vaccination against typhoid fever may be used in the future. Encouraging results have already been obtained, but further experimentation is necessary to establish its immunizing and curative effect.

Typhoid fever is disseminated by the transference of the excretions of an infected individual to the alimentary canal of others; prophylaxis is thus best obtained by killing the bacilli when they leave the patient. Measures to prevent their introduction into healthy individuals are necessary and indispensable, but it is like the attempt to kill millions of mosquitoes which might never have been had the eggs been destroyed. It must be confessed that the task of attempting to stamp out typhoid fever

is no small one, for it involves much labor and conscientious care, more than the majority could or would give; still, as mentioned above, were the proper power given to competent authorities, such as health boards or departments of public health, a most valuable aid in securing a higher standard of prophylaxis for this and other virulent diseases would be established. Too the individual American physician of to-day could greatly assist in the attempt to control the disease, by each giving more attention to this matter of isolation and disinfection especially. With these two allies, it is certain that the disease, which inflicts such enormous injury upon the people of the United States, imposing such vast and needless human misery and pain with its weeks of suffering, and sustaining such great loss for us financially, and in prestige and power, would grow less, from year to year, both in the number of victims and in the percentage of deaths.

1437 Summit Ave.

THE REGULAR PROFESSION AND THE ISMS.*

By H. J. Rowe, M. D., Willard Springs, Mo.

By the regular school of medicine is meant the school of medical practice and teaching which is based upon principles accepted by the great body of physicians, and founded upon the experience and scientific investigation without strict adherence to any theory of therapeutics.

To the regular school of medicine humanity is indebted for all the distinct advances in all medical and surgical science. The discovery of vaccination, by Jenner, has saved thousands of lives and untold suffering. The discovery of the germ of the disease has led to great advance in the prevention and cure of many diseases, and has given us serotherapy, which has robbed the dread disease diphtheria of its terrors, as well as tetanus and many other fatal maladies.

Who to-day are taking the lead in hygiene and preventive measures? Who are the investigators who are trying to stop the spread and find a cure for the great white plague? Who has placed the science of ophthalmology where it is to-day whereby thousands of bright children are saved annually from ignorance and blindness?

Do these advances come through the efforts of the Christian Scientists, the osteopath and like isms? No, they all come from the regular profession, they taking the broader view, investigating and accepting all that is good without strict adherence to any one theory of therapeutics.

The regular physicians are not hydropaths; yet they believe that wa-

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ter has its therapeutic use in the treatment of disease. They know that electricity is a valuable aid in the diagnosis and treatment of disease, but do not exploit it as a cure-all.

No one knows better than the regular physician the intimate relation of body and mind, and the value in many cases of suggestive therapeutics, but he does not try to cure all diseases by this method, as does the Weltmerite. The regular physician appreciates the value of massage and Swedish movements, but does not consider it alone a system of therapeutics for the treatment of *all* diseases. On the other hand the isms take up some particular fad, and exploit it as a cure for all the ills the flesh is heir to. They spring up suddenly and make wonderful and ridiculous claims for their particular ism. They ignore all the scientific investigation, past and present, and no difference how absurd their theory and ridiculous their claims, they find many converts, and among them many of the more intelligent class.

I know of several people of ordinary intelligence, who sent Weltmer $5.00 for absent treatment, and claimed to have been benefitted too, and had not the government issued a fraud order against him, he would, by this time, have been several times a millionaire.

Look at the claims of the late Alexander Dowie. He said he was Elijah the Second and an apostle of Christ, and was able to cure all disease by the laying on of hands, and he had a big following, not all of them illiterate and ignorant, but many were educated and considered highly intelligent.

Look at our Missouri ism; the osteopathic school of Kirksville. Absolutely nothing in it except massage and Swedish movement. Dr. A. T. Still, the founder, claimed to have discovered that the cause of all disease was misplaced bone, and gave the ism the name of osteopathy, and ignoring all scientific investigation and knowledge based on the experience of the brightest minds of the world of all ages, discrediting the achievements of Jenner, Virchow, Pasteur, Von Behring and thousands of other conscientious investigators, claims that *he* has discovered the whole cause of *all* diseases in the misplacement of bone, and to effect a cure, all that is necessary is *scientific manipulation,* as taught by *himself.*

Could anything be more ridiculous? Yet, look at the thousands of converts to osteopathy. See how the different state legislatures have thrown a protecting arm around them, licensing them to treat all manner of diseases, from belly-ache to diphtheria, by the science of osteopathy, and also to practice obstetrics. I noticed a decision of some court in New York recently, that osteopaths were not allowed to use any kind of instruments, which I suppose would prohibit them from using Obstetrical forceps, and I believe if it was fairly tested in the court, they would not be allowed to practice obstetrics, for I don't see how any sane person could attribute the puerperal state to misplaced bone. However,

there is as much reason for so doing as to attribute smallpox and pneumonia to a like cause.

Why is it that the different isms, with nothing to recommend them but their own claims of miraculous cures, continue to flourish, and make converts of people who on other subjects are well informed and intelligent? What should be the attitude of the regular profession toward these isms, and what methods should be pursued to save the people from their own folly?

To the first question I would say, that many things contribute to the popularity of these isms, one of which is a superstition handed down from the Dark Ages, that cures of human ills must be something mysterious and miraculous.

We all have patients who like to tell how some doctor, at some time, came to them just in the nick of time, and by some method or wonderful remedy (which they would lead us to believe, was known only to himself), jerked them from the very jaws of death, when they were almost in sight of the pearly gates (or that other sea-port).

Another contributing factor is the ignorance of the laity as to what rational medical science really is, and what the regular profession has done and is doing to-day for the prevention and cure of disease.

The regular physician, as a rule, is ethical. He does not advertise in the lay press and tell what he can do and the wonderful cures he has made. This is as it should be, and we would not have it otherwise; but there should be some means of teaching the masses that different diseases are the result of certain fixed causes, and that cures are affected by rational, intelligible methods.

The reader takes up his paper and sees the card of the regular physician, that his office is in a certain place and certain hours are office hours. He turns to the next page and reads a whole column of how Dr. So and So, of world-wide fame, has discovered a sure cure for cancer, consumption and several other things, said cure known only to himself, thus stimulating that belief in the mysterious, and making him a ready convert to the first new ism that comes along. He takes up his monthly magazine and learns something about nearly all the sciences, and reads many articles on Christian Science and kindred isms, but sees few articles on the rational scientific medicine and hygiene by competent medical authority.

As to the attitude of the profession towards these isms, and the best method of educating the public to a correct idea of the cause of disease and the rational methods of cure, there are many different opinions. Some will say, "Do nothing." Ignore them, their theory is false, and the people will find out by and by, and they will play out. True, the time is coming, but so is the millennium, and while we are saying nothing and doing the ignoring act, the isms are active and sending literature to every one who will read it, presenting their isms in the most plausible way, and it

appears plausible to those who know nothing of anatomy and the cause of disease.

There is one thing peculiar about the converts to these isms. Each one seems to appoint himself or herself a committee of one to act as advertising agent for the new ism, and they will talk it all the time. They go to see all the sick and gently suggest that they try Christian Science or osteopathy or whatever it may be. If Dr. Isms has a patient, they all visit this patient and encourage him by telling him of the wonderful cure Dr. Ism has performed. However, I believe some of them are like the small boy who plunges into the swimming hole the first day of April, and says, "Come on boys, the water's fine."

I believe it is the duty of every regular physician to ignore these people as doctors, and explain to their friends, who may be impressed with them, the absurdity of their claims. When the doctor is asked if he does not think this or that ism might help his chronic malady, the doctor should tell him, in no uncertain language, just what he does think of it. I say this in face of the fact, that I have, probably, lost more practice by pursuing this policy than by all other causes combined.

I remember about eight years ago I was called upon to assist one Doctor Ism with a difficult case of obstetrics, and refused to go into consultation with him, and have had about one-half of the church to which this patient belonged, fighting me ever since; but, notwithstanding the fact that we will make enemies, at times, by pursuing this policy, I believe it is a duty we owe the profession and the public. If you accord them a semblance of recognition you cannot tell how far-reaching may be the result.

Let us suppose that Dr. A. has a case of chronic rheumatism that he has treated for a long time, and this patient reports that he is no better, and that his friends want him to try the osteopath, and wants to know what Dr. A. thinks about it. And, supposing, Dr. A. has treated this patient until he feels that he would like a rest, as we all sometimes feel with these chronic cases, or the friends who want him to try osteopathy are influential, and the Doctor does not like to antogonize them, and he temporizes and says, "Well, I don't have much faith in osteopathy. It may be all right for rheumatism. It *might* do some good." Has Dr. A. been honest with himself and patient and true to his profession? I think not. He knows that rheumatism is not due to misplaced bone, and if he thinks that massage is indicated, he should have given it or had the nurse do so, and this *might do some good* will be construed as a complete endorsement of osteopathy, and this patient will tell that Dr. A. advised him to go to the osteopath, and his osteopathic friends will say that Dr. A. *sends all* of his cases of chronic rheumatism to the osteopath. Then after six months have passed, and the weather has gotten warm, this patient gets better. This is then heralded as another great cure where *all* the medical doctors had given the case up as hopeless. This patient believing something has been done for him, becomes a great believer in the isms;

and when his child takes membranous croup, he sends for the osteopath, who rubs it until it is too late for anything to be done for it.

Is not the doctor, who said osteopathy *might* help rheumatism, to blame for this child not receiving proper medical care? I think he is. This patient knew nothing of the cause of disease, and he read in the pamphlets furnished him, that this ism cured all manner of disease, and is less to blame than the doctor who failed to stamp it as a fraud.

As to the best methods to be pursued to place the regular profession and the isms in their proper light before the public, I would say, in the first place, every physician should take an active part in politics and strive to have laws enacted which will require the same proficiency for all who treat the sick.

The young man who wishes to become an M. D., must have an education equal to a four year high school course. He must attend a good medical school for four years, and after receiving a diploma, must go before the State Board of Health, stand an examination and get a certificate, and register this certificate with the county clerk before he is allowed to treat the sick.

The young man who wishes to practice osteopathy, is not required to have a certain standard of literary education. He goes to Kirksville for a few months. Does not have to go before the State Board, and is not required to register in the county where he practices; yet treats the same class of disease as the M. D.

Why the discrimination against the regular profession? What does it mean? It simply means that doctors have not been active enough in politics. They have been doing the "ignoring act."

A few years ago there was a medical practice act introduced in the Missouri Legislature, which required an equal proficiency for all who treat the sick. What did the regular profession do when that act came up for passage? *Nothing.* What did the isms do? They poured into Jefferson City by the trainload, and the osteopaths succeeded in being exempt from the provisions of that act, thus, legalizing osteopathy in this state. Had the regular profession taken the same interest in the passage of that bill as the isms did to defeat it, that exemption would not now disgrace the law-books of the state of Missouri.

The people should be educated as to the cause of disease and its prevention, for only by this means will we be able to procure proper medical laws and suppression of quack isms, and there is no one so well fitted to push this campaign of education as the ethical regular physician. I think we should have more open sessions of our county societies to which the public are invited, with specially prepared programs of interest to the laity. I think each county society should appoint a committee on public health and hygiene. One of the duties of this committee should be to write timely articles, taking such subjects as typhoid fever, giving cause, the danger of impure water and milk supply, etc., submitting these

papers to the county siciety for their approval and then have them printed in the county papers.

There should be a like committee from each state society, papers handled in like manner and printed in leading magazines, such as The Scientific American, Ladies' Home Journal and other widely read periodicals.

THE GYNECOLOGIST OF TO-DAY.*

By Walter B. Dorsett, M. D., St. Louis.

So great has been the advancement of medicine along various lines that specialties have become more or less blended and it is with difficulty that we can select a practitioner who follows what was formerly considered a special line of work.

The writer knows practitioners who until recently, for example, confined their work to diseases of the eye; now they have included the ear, nose and throat, and many who call themselves oculists treat diseases of the ear as well.

Until within the last ten or fifteen years the work of the gynecologist was limited to such therapeutic measures as may have been administered through the vaginal speculum. To-day, he who limits his work to the narrow confines of his office cannot be considered a gynecologist.

It is not my purpose nor intention to underestimate the importance of the treatment of a certain class of cases that do not require major surgical operations; I still believe the Hodge and Albert Smith pessary, the depletion and counter-irritation, as well as the application of other therapeutic measures, have their places in gynecology; and I believe he who is inclined to underestimate these important matters is not competent to judge as to who is, or is not, a gynecologist. So important are they that to ignore them is to lose sight of means whereby women are saved from many unnecessary mutilations incident to operations. I am aware that just criticisms may be cast upon methods of the routinist who indiscriminately applies remedies in his office treatment, in an empirical way and often without rhyme or reason. The fault, however, should hardly be laid entirely at his door, for the reason that the teaching of the subject in our medical colleges is shamefully neglected; for the teacher usually is himself enamored with the purely surgical side of the subject and neglects the important non-operative side. True, the outdoor clinics at the college buildings are of benefit in enabling a limited number of students

*Address of the Chairman of Obstetrical Section, St. Louis Medical Society, January, 1910.

to inspect pathological conditions macroscopically, but they are not enabled to follow these cases to their termination as well as they are to follow cases that have been operated upon, so that their usefulness is materially limited.

The difficulty of maintaining a well attended gynecological clinic is well known to those of us who have attempted it. There are few women of the great number who are in need of gynecological treatment willing to subject themselves to the inspection of a class of medical students. This is shown by the large number of patients who avail themselves of clinical treatment during the summer months, between college terms, as compared with the comparatively small number who attend during the school session. So that it is clearly shown that such stimuli as are sadly needed in the teaching of non-operative gynecology, do not exist.

In the consideration of the subject of this paper we are forced to admit that the gynecologist's territory must extend somewhat into the field of general surgery. The possibilities of the invasion into the hitherto forbidden fields have become so great in these days of modern medicine that the gynecologist must necessarily be well grounded in abdominal surgery, not alone as it may bear upon the uterus and adnexa, but the appendix, the intestines, the spleen, the gall-bladder and the kidney. In suppurative diseases of the adnexa, complicated with pathologic conditions of the appendix and intestines, in fibro-myomatous disease of the uterus, in tumors of the ovaries associated with adhesions to the bowel more or less dense; in obscure intra-abdominal diseases of any nature in which exact preoperative differential diagnosis is impossible, the gynecologist is expected to be and should be, equal to the task that is often necessarily presented.

Some time ago I asked a gynecologist if he confined his work to diseases of the uterus and adnexa, and he replied in the affirmative. I then asked him if he ever removed the appendix when it showed pathological lesions during the progress of an operation on the uterine adnexa, and he again replied in the affirmative. The answer to the last question of course negatived the first. Is it not, therefore, reasonable to assume that such a specialist is not as well equipped to deal with intra-abdominal diseases as the abdominal surgeon? To reply affirmatively to this certainly weakens the defense of the specialist as to his right to the title of gynecologist.

Specialization should be well grounded upon pathological as well as anatomical grounds, and what we find to do should be done, and he who does the most work along certain lines is best prepared.

Obstetrics as a specialty has been by custom linked with gynecology and as obstetrics may be considered the maternal ancestor of gynecology, and most of us now who claim the title of gynecologist have served a certain pupilage in obstetrics, we naturally should reason that these specialties should go together. Theoretically these are good grounds for reasoning, but practically we know that they conflict so materially that the one has to be abandoned for the better pursuit of the other.

When gynecology has been chosen as the one to follow we naturally invade the field of the general surgeon and do intra-abdominal work. The perusal of the lately written text-books on gynecology will convince us that most of the recent writers include in their writings well written chapters on nephropexy, appendectomy and splenectomy. Among these may be mentioned Palmer Findley, who contributes one chapter each on diagnosis of diseases of the ureters and diagnosis of diseases of the kidney; C. Hubert Robert, an English author, one chapter on diseases of the ureters including calculus; Barton Cook Hirst, one chapter on diseases of the urinary tract, which includes floating kidney with specific directions in the operation of nephropexy; Tod Gilliam, chapters on diseases of the ureters, kidneys and rectum; Reed, one chapter on the rectum. Howard Kelly, one chapter on diseases of the ureters, one chapter on the detection of calculi by means of the *x*-ray.

It is, then, shown that the natural trend of modern gynecology is toward abdominal surgery. In the consideration of this subject we should not lose sight of the tendency of the embryo gynecologist, who, after having been graduated, immediately begins his exploits into the field of abdominal and pelvic surgery without having served an apprenticeship with a competent master. The tendency in this direction is so great that we cannot refrain from uttering a cry of warning. In this our country of free thought, free speech and I may add free action, the mutilation of our women will soon bring disrepute upon our specialty. Many who would not dare to remove an adenoid or enucleate an eye, do not hesitate in the attempt to do hysterectomies or remove pus tubes. So patent is this question that it may require legislative enactment to put a stop to it.

APPENDICITIS, DIAGNOSIS AND TREATMENT.*

By G. A. Delamatar, M. D., Rich Hill, Mo.

The diagnosis of appendicitis in certain forms is, I believe, rather an easy matter, while in old cases, and especially in complicated ones, most difficult, if not the most difficult of all the abdominal cases the surgeon has to deal with.

Inasmuch as there has been so much written, and so much discussion, as well as so much lack of positive knowledge, as to the exact condition present in the different varieties of appendicitis, and especially in the different stages of the disease, it would be impossible for me in one paper or reading to fully cover the entire subject. I will therefore treat

*Read at the meeting of the Bates County Medical Society, September 30, 1909.

only upon the one variety, that of acute suppurative appendicitis. This is the variety that we as country doctors have to deal with most frequently and the one that requires immediate attention.

Diagnosis. There are two prominent symptoms common to all forms of appendicitis, viz: pain and vomiting; but there is a great variation in the character of these cardinal symptoms as well as the other symptoms associated with them, according to the lesion in or around the appendix.

When we are called to an acute case of suppurative appendicitis, the attack begins suddenly with pain in the epigastric or umbilical region, nausea and vomiting usually about the same time. There may be chilly sensations or not, but rarely a distinct rigor. Temperature may be normal or slightly elevated, and we will find always the pulse rate increased to around the 100 mark. After an attack of vomiting the pulse may reach 120 during the first of the attack.

After twenty-four hours the pain will be located in the region of McBurney's point. There may be slight tumefacation or not, but there will be rigidity of the right rectus muscles. This I consider a cardinal point. The pulse by this time is still increased, the tongue coated white and dry. The patient assumes an anxious expression, and upon deep pressure the pain is greatly increased. Localized tympanitis with distinct muscular resistance upon the affected side.

Should these symptoms subside at this point the inflammatory process will likely clear up rapidly, with one exception, that of tenderness directly over the appendix. This last symptom would confirm our diagnosis.

Should the case go on to suppuration, an abscess forms and the tumor will continue to grow from day to day until relief from breaking, or being opened and drained, and all of the above symptoms are aggravated, with new symptoms of septic intoxication appearing.

Examination per rectum may show the tumor to be plainly felt, and in the female per vaginum the tumor may be so closely in conjunction with the right ovary that we may be easily misled without a careful history.

As to the blood count. I am not thoroughly familiar. Greenough concludes that a leucocytosis is a fairly constant symptom; that a count of 20,000 on the first or second day, suggests a general peritonitis, but I can not remember in my experience, being able to discover a general peritonitis as early as this. That a count of 10,000 or less after the sixth or seventh day, a grave general peritonitis. But a count of 20,000 after the first week, a local abcess.

The cardinal symptoms are: Acute pain in the right lower abdomen; localized tenderness with or without tumor; rise in temperature even slight; nausea and vomiting, with right rectus rigidity, and the diagnosis is quite complete.

After the abscess begins to form, marked rigors and profuse sweating.

Differential diagnonsis. The most common differential diagnoses are:

Renal colic: But there is usually no rise in temperature, and a history of renal disturbances.

Acute cholecystitis: An inflamed and distended gall bladder is rather above the umbilical region, no fever, and jaundice is often present.

Acute intestinal obstruction: There will be vomiting of fecal matter with early distention of the entire abdomen.

Salpingitis: There will be an exudate that will be rather lower down in the pelvis and one can nearly always trace the exudate later to the fixed uterus. I believe we will rarely get nausea and vomiting early in this case, and there will likely be a history of menstrual irregularities.

Appendicular colic: You will have no elevation in temperature..

Treatment. I still believe there are two stages when operating should be done, notwithstanding some of our eminent surgeons advise—always operate as soon as you are satisfied you have an acute attack of suppurative appendicitis, as well as at any time during the attack.

I believe during the first twenty-four or even forty-eight hours of an acute attack of suppurative appendicitis, that an operation carefully done under strict aseptic precaution is comparitively without danger, but after two, three or more days in which nature is trying to protect the adjacent parts, with perhaps a large amount of exudate, without a suitable limiting wall that is very easily broken, and that by the most careful operator, that it is better to wait, depending of course on the totality of the symptoms, until you are quite sure that you can open and drain without infecting the general peritoneum.

I well remember a case, not very long ago, of a female in middle age, who was sent to my place suffering with a protracted case of suppurative peritonitis of three weeks' standing. She was in a cold clammy perspiration, rapid feeble pulse, with marked distention of the abdomen and a large circumscribed tumor in right lower abdomen. Upon examination I was almost sure I could open and drain what seemed to be a large abscess without much difficulty, except from the exhausted condition of the patient, in which I was somewhat fearful of surgical shock. Upon opening the abdomen I found to my surprise the abscess was well walled off, but not attached to the abdominal wall. There was a considerable discharge of a brownish thin fluid which was washed and wiped out, and a drain of gauze established. I am quite sure had I attempted an opening of the abscess wall I would have very likely had an infection of the peritoneal cavity. A high enema brought away the appendix entire, and the patient recovered finally. The operation did not seem to cause any trouble whatever. Bold surgery in my opinion would likely have proved fatal in this case, and the operation have done no practical good. It was simply a case in which nature threw out a wall around the diseased appendix and it sloughed off into the gut.

This was an attack of acute suppurative appendicitis that should have been operated on early, and would have saved the patient weeks of suffering.

You will notice I took up the operating part of the treatment first. I believe it is the first thing to consider in an acute suppurative variety of appendicitis.

Of course I realize that it is almost impossible to get consent to operate early; nevertheless the number of practitioners who regard suppurative appendicitis as a medical disease is fast diminishing, and even those who claim that some attacks yield to medical measures are entirely unable to select, in the early stages of the disease, the case which they have confidence in treating by internal medication. No mdical treatment has ever proven to be satisfactory in suppurative cases, and the pathology of the disease is such that there will likely never be.

I will state, however, that when I am called to treat an acute inflammatory attack of appendicitis, I would stop or limit all food, or at least restrict the diet to liquid and that to the limit depending on the general condition. I would not use strychnine as some of the profession would recommend, until absolutely necessary. On the other hand, I would use such mild sedatives as aconite, gelsemium, and if necessity veratrum in minute doses to modify the heart action, for I fully believe strychnine is greatly abused by the medical profession in many of our acute inflammatory affections. My reason for this is simply that when there is circulatory obstruction and the heart is laboring to re-establish same, before resolution can possibly take place, that it is far better to give the heart as much rest as possible until the time when it is, as I said before, absolutely necessary.

I have never used the ice pack, and can not speak of its value for I know it is not well tolerated long by the patient. I am a firm advocate of the use of turpentine applied to the abdomen when there is much distention, and I know it has served me well in many cases.

I am not an advocate of a milk diet, but prefer beef broth, malted milk well diluted and have allowed ice cream with benefit.

Absolute rest should be advised in the recumbent position, but counter-irritation is of no value, and may be of harm to the skin should an operation be performed.

Anodynes should be used if the pain be severe. The bowels should the thoroughly washed out, if they have not already freely moved as is very often the case, and I never use purgatives.

I have found heroin in 1/12 to 1/6 gr. doses to have worked very satisfactorily in allaying the pain and does not nauseate as badly as does morphine, codeine may be used as well.

Where there is much distention, I am sure washing out the colon using the high enema, is of great value in helping to eliminate the gas.

I always allow water as long as it does not cause nausea or vomiting.

I will not discuss the operative methods, as you are all familiar with the text in the ordinary removal of the appendix, but in the later stages of the disease, there are no two cases just alike, and the surgeon who is best able to judge what to do and just what not to do, after getting within the abdomen, together with absolute cleanliness, will have the best results.

Just a word regarding a suitable place for operating. I believe with good light and in the patient's home if possible, done under thorough sepsis together with careful nursing, is better than rushing a patient off to a hospital, notwithstanding that our city surgeons—most of them, not all—advise sending them to the city or to their hospitals and that for more than one reason, in their minds. We, as a rule, in country practice, only get the consent to operate after the case has reached the abscess stage, and at this time it is a matter of open and drain, or open, explore, dissect, and take chances. Surely if there is a chance for infection during an operation it is in a hospital where you have it all around, operating room, attendants, wards, private rooms and all.

LOBAR PNEUMONIA.

By W. S. Love, M. D., Bertrand, Mo.

Lobar pnuemnoia is an acute specific infectious disease produced by the diplococcus of Fränkel, characterized by inflammation, fibrinous and cellular deposits, and producing marked constitutional symptoms.

It attacks chiefly young, robust males and females, though no age is exempt. It is especially prevalent in temperate climates, and among those whose surroundings are insanitary.

While the primary cause is the diplococcus, there are many secondary causes for the advent of the disease, viz; exposure to sudden cold, getting wet, or in convalescing from such diseases as typhoid, measles, etc.

We divide the pathology of this disease into three stages, viz: first, or stage of congestion; second, or stage of solidification; third, or stage of beginning resolution.

In the first, or congestive stage, we find the entire capillary system of the lung, usually the lower right lobe, in a state of red, congested hyperemia, this condition lasting maybe an hour or a day; it then passes into the second stage, that of solidification.

This stage we may rightly divide into two parts, the first of which we call red hepatization in which we find a fibrinous exudate filling

the affected lobe, making it a solid lung, mottled externally and the pleura inflamed; it is heavy, and when cut we find this exudate to be made up of pure blood fibrin, red and white blood corpuscles and debris.

The second part of this stage, which we call gray hepitization, is really but the advance guard of beginning resolution. In it we find this solid red exudate beginning to soften and break down, the red lung begins to turn gray as a result of the undergoing decomposition of the fibrin, corpuscles, etc.

The third stage, that of beginning resolution, is that in which we find the exudate being absorbed and thrown off, followed by an amelioration of all symptoms and the convalescence of the patient. Or, if the case is not to terminate favorably, an abscess may develop through the plugging of some bronchiole; or gangrene may supervene from the closing of a terminal vessel; or we may get a fibroid or chronic pneumonia with a contraction of the air vesicles and small bronchi, and an overgrowth of interstitial tissue, a condition in which the tubercle bacillus is prone to manifest itself and produce a fibroid phthsis.

The symptoms of this disease are sharply defined. Its incubative stage is about two to five days. It begins with a distinct chill or chilly sensation usually prolonged, and usually at night. This chill, we are taught, is caused by the toxins produced by the propagation of the germ, and in children it often causes convulsions. Associated with the chill there will be a rise of temperature to 103° or 105° in a few hours, and it will hold its maximum for a few days, or until the absorption of the exudate begins, when it will suddenly fall, going out with a deep sweat, urination, or purgation, usually about the seventh or ninth day of the disease.

Pain is another symptom accompanying the chill; at first maybe a deep ache, then changing to a sharp stab; the deep ache being the sick lung, while the sharp stab comes from the inflamed pleura, usually located about the nipple on the affected side. Sometimes we find the pain elsewhere, showing it to be reflected.

Immediately following the chill we find painful respiration and shortness of breath; the patient cuts short the inspiration due to the severe pain, at the same time the number of respirations jump to 30, 40 or 50, and become grunting in type. The cheek of the affected side is flushed, the alæ of the nose playing in the effort at respiration.

Synonomous with these symptoms we find a change in the pulse. During the chill it is rapid and weak, but when the chill subsides it becomes slow, full and bounding, beating about 110 to 120. It is changed in proportion to the respiration, a sign which is pathognomonic of this disease. Instead of being 4:1, it becomes 2:1, or even less.

A cough comes with the chill, at first a short, ineffectual hack, very painful; as the disease progresses this cough becomes louder and more painful, at times being paroxysmal.

The sputa of this disease is typical and diagnostic. With the onset

of the second stage, it becomes the familiar brick dust sputum, or in some cases we find the "prune juice" variety, a thin, dark sputum. As the case continues this changes to a thick yellowish sputum which continues through resolution.

Nervous symptoms may be prominent in the course of the disease or not; there may be delirium of a severe type, or excessive headache. Alcoholic patients often become maniacal; children usually show severe nervous manifestations, especially convulsions.

We find the urine scanty, high-colored, full of urates and phosphates and may contain albumin. It never contains chlorides.

The physical signs of pneumonia are a very valuable aid to the diagnostician; inspection shows us the patient lying on his affected side with his knees drawn up, and the cheek of that side flushed, the alæ of the nose playing, the vessels of the neck and temples pulsing violently; also we see the broad, white-coated tongue, and possibly fever blisters on the lips. By palpation we find over the affected lung markedly increased fremitus, especially in the second stage; the skin is hot, the heart throb full and deep; resonance is usually impaired, though we may get Scota's resonance, or an increased resonance instead. In the second stage percussion over the affected lung gives dullness, this dullness gradually decreasing in the third stage to a normal vesicular note. If we percuss over solid lung with the patient's mouth open, we get a metallic ring. Auscultation is most valuable; in the first stage on deep inspiration we get a crepitant rale, some diagnosticians claim this to be due to an associate pleurisy, others to a stuck vessel; in the second stage we get no rales at all, because the lobe is solid; but we get tubular breathing. The voice sounds are greatly increased through the solid lung; in the third stage we get the rale redux, or the return of the crepitant rale of the first stage, also submucous and mucous rales.

The prognosis of this disease varies with the conditions attendant. In young, robust adults, with a moderate involvement and without complications, we have a right to expect a favorable outcome; in the case of patients who are very old, or enfeebled from other causes, we should be very careful in giving our prognosis, for it is almost always fatal; in habitual alcoholics we should always give an unfavorable prognosis, for statistics have proven that about 98 per cent. of these cases die.

In the treatment of this disease there are two things that demand our watchfulness above all others, viz: the toxæmia of the second stage, and the danger of heart failure in the third stage. And, as no two cases run exactly alike, we must treat each case on its own merits symptomatically. The sick-room should have proper ventilation, without drafts; and the least material and human adornment we can get in the room, outside of a nurse, the better for our patient.

As to the medical treatment, personally I begin with a good purgative of calomel, following with a saline to sweep out the bowels; I apply a cotton jacket to the chest; and if pain is severe, I apply a hot poultice

to the affected area; I also give some form of opium with quinine in small doses throughout the first stage. If the temperature is causing too much trouble I give aconite and veratrum, also sponging with warm water or alcohol. I like my patients to drink plenty of water and have sufficient nourishment of liquids and semi-solids. For the cough, if it be tight, painful, and ineffectual, I prescribe some of the ammonia salts. About the fifth or sixth day, if the toxæmia is getting the best of my patient, I sponge freely with hot saline solution, or cool compresses. From about the sixth day, I begin to support the heart with small doses of strychnia or some good stimulant, and if resolution is slow, I put them on the iodide of potash, following this with a tonic of iron, quinine and strycnia.

OUR COUNTY SOCIETY.

By G. W. Hawkins, M. D., Salisbury, Mo.

We are gathered at this annual meeting in commemoration of the birth of the Chariton County Medical Society. We who, some one has said, form a band of men who are occasionally overworked and abused, ill paid, much respected, greatly depended upon, and who are indispensable and honored citizens of every community.

We assemble as representatives of one of the greatest professions that work among men, trying to prolong the life of the sick and the cripple, and in the relief, the cure and the prevention of disease. To look back only a quarter of a century and see what our great profession has accomplished, it seems as bright and glorious as a noon-day sun that imparts light and heat to this mother earth of ours. Some of you have labored in this field until the bright rays of that glowing sun are growing dim in the western horizon. The frosts of many long winters are shown in your countenances, depicted more plainly than it should in some cases because of the irregular and professional life that we are honoring to-day; a life which from its irregularity leads some in the ways of ruin—dissipation. Insurance companies give our profession the lowest life schedule of all the professions. Self is often sacrificed in doing what we call a duty and pleasure to help the afflicted. But often as has been said, "Fools rush in where angels dare not tread." No nobler life belongs to any than that of the medical hero.

He is often on dangerous ground, so often has he risked his life that others might live. And where we read in the book of books, "Greater love hath no man than this that he lay down his life for his friends," it must have meant a physician, for here it seems to me that we have

heroes. I ask you to recall the recent coal mine disaster in Illinois. Who was the hero to lead the way to the entombed? The camp physician. "Who but Dr. Jesse W. Lazear, bared his arm and deliberately allowed an infected mosquito to inject the poison of yellow fever into his circulation and died that others might live? History does not recall a more Christ-like sacrifice than this, and time cannot eclipse it. He has lighted a torch for the guidance of men which can never be extinguished. No poem of praise can ever be sung to make his rest more tranquil or more profoundly secure in the hearts of those who love noble deeds."

In the seven years of my life that has been honored with your association, no period has been appreciated more. I have tried at all times to the best of my ability to hold our standard high. I have made mistakes like all of you, something common to humanity. I stand for better medical education. The meetings of this society have been a school for me, as well as you, each gathering some good at the times that we have met.

Gentlemen, since you saw fit to choose me as president of the society for this calendar year of nineteen hundred and nine, I assure you that the honor has been greatly appreciated. I had aspired to this honor since being a member of the society, and at the same time felt a hesitancy as to my filling the office as it should be filled. You have been patient with my ruling, which at all times has been in accord with a majority of those present. We have endeavored to interest the society with some ideas that I trust it may see fit to put into operation.

We have seen through recent legislatures what medical influence can do, the passage of several very important bills. What has done this? The organization of this great profession, thrusting the harpoon at the charlatan. He who is not abreast with the progress of the profession, is not worthy of the high calling. Our society is largely what we make it, and we have one great fault that can be remedied, it lies within the help and influence of each individual member,—it is attendance. What professional brother is in the society who cannot set aside or arrange his work so that he can be off the few hours of this meeting once a month, twelve times a year?

Were it for twenty-five dollars I dare say that there would be but few of us missing. You doubtless will say that was the reason, but in a large per cent. of the cases we know better. Could you not arrange to come even six times a year? And would you think it possible that some who have their names on our roster thus entitling them to all the privileges of membership of the society, have never entered our halls, nor even given the time they asked of us to ballot upon them as members? If they are so well posted that we can teach them nothing from our meetings, our society would appreciate a paper or lecture from them occasionally. Who knows but that to-morrow's mail will bring the summons of some malpractice suit? The result often from not carrying out our instructions. If you are a member in good standing you will appeal first

to your medical society for help. Could it not be given more willingly if you were one of the active workers?

The day is here when in seeking public appointment pension, insurance or otherwise, one of the first questions before appointment is, "Are you a member of your County and State society and in good standing?" if such bodies recognize such a requirement as being important it seems that we should be up and doing to keep our standard high. Our society has members that any county or city would be proud of. I hope to see the standard bearer of our county equal to any county in grand old Missouri. We have the material, why not put forth the effort? You can help this society by attending. I especially ask of you to come as often as possible.

My professional brothers, our duty is to help one another and by so doing we help ourselves. And now as I turn this gavel over to my successor, I am ever ready to help you and the society in any way that I can be of assistance to the organization. Let us endeavor to make each year better than the ones that have passed.

Let us enroll on our roster every worthy brother in the county. Our teachings and examples will not last long. Soon the death angel will give our call, and we must pass to our eternal home. Some others must fill our places. Keeping in mind always absorbing devotion to the profession you will see a fair example of what I wish to convey in the lines of Burns, "To a Friend."

"To catch Dame Fortune's golden smile,
Assidous wait upon her;
And gather gear from ev'ry wile,
That's justified by honor;
Not for to hide it in a hedge,
Not for a trained attendant;
But for the glorious privilege
Of being independent."

THYREOID INSTABILITY: WITH REPORT OF A CASE.*

By A. L. Cambre, M. D., Atlanta, Mo.

The paucity of literature bearing upon this subject has led me to believe that either the cases representative of this morbid entity are infrequent, or they are not uncommon but are often classed with the "neuroses" or the "toxemias" without due reference to the etiological basis.

With a careful analysis of the typical clinical manifestations the correct diagnosis follows as a logical sequence.

Thyreoid instability is a term applied by Levy and Rothschild to a series of morbid conditions between the extremes of myxedema and exophthalmic goitre. According to their interpretation this is the result of a general law of nature that an organ functioning defectively strives to restore normal balance and when this is reached is liable to go beyond it with exaggerated function.

Conditions may be found in which both deficient and excessive function may be observed in the same case, with or without visible enlargement of the thyroid gland.

The suddenness of the onset is somewhat characteristic of the paroxysmal nature of this affection and throughout the paroxysm various nervous manifestations are observed.

Patient, Mrs. A.; age 64; occupation, housewife; weight 140 lbs. Paternal history—negative. Family history—negative, except that one sister has enlargement of the thyreoid gland. Married, one child living, in good health; husband dead. Personal history; had the ordinary diseases of childhood with complete recovery in each case. Passed menopouse normally. About seven years ago was taken sick rather suddenly with what was called typhoid malaria and was confined to house for about five months. Has had fairly good health since that time to the beginning of present illness, except that she has had some nervous symptoms, at times, but was able to attend to the duties of a household. Present illness; while busy in yard about February 10th last, was suddenly attacked with a feeling of weakness, and tachycardia which was of a tumultuous nature. Was put to bed and physician called who pronounced the condition one of disturbed nervous control and treated her accordingly.

She later developed, in addition to the above symptoms, nausea, vomiting, bitter taste, some constipation, complete anorexia, tongue coated at times, periodical rise of temperature, and still later complained of soreness and tenderness to pressure over pyloric area. She gradually became

*Read at the meeting of the Macon County Medical Society, December, 1909.

weaker and emaciated, taking little nourishment and vomiting nearly every day.

In the belief that a gastric ulcer was present the patient was finally put upon rectal feeding, with an occasional small amount of soup by mouth. This was continued for about ten days prior to my seeing the case, which was May 17th.

Physical Examination, May 17, 1909. Found patient in bed, weak, considerably emaciated, in a position indicating considerable depression; coarse and fine muscular tremors present, some visible enlargement of thyroid gland, eyes normal, absence of Moebius' and Grafe's signs. There were epigastric pulsations, an apparent total loss of body adipose, tongue red on sides but coated in middle somewhat.

Pulsations were 140 to 160 per minute, tumultous, with phases of intermittency, the tenderness and soreness in region of pylorus still present, exaggerated by suggestion, patient thinking she had carcinoma of stomach. There was a temperature ranging from 100° to 101.5° also intermittent.

Heart was enlarged considerably in transverse diameter; thyroid examination revealed some enlargement of both lateral lobes and also isthmus although this was not marked. Patient explained that this enlargement had existed in about the same degree for thirty-four years, producing no symptoms till the present, when she complained of a feeling of pressure at times during present illness. Examination with stethoscope revealed loud hemic murmurs, distinct bruits with easily palpable pulsations over the gland. Reflexes were exaggerated, nervous symptoms were pronounced, with considerable psychic coloring.

Urine Analysis. Amount—42 oz. Acid, sp. gravity, 1025. Urea—1.9 per cent., no albumen, no sugar, bile salts negative, some indican.

The high per cent. of urea elimination while upon rectal feeding with low nitrogen intake afforded an explanation for the progressive asthenia and emaciation.

The plan of treatment was to provide in an easily digestible form sufficient proteids to maintain nitrogen equilibrium and gradually produce a condition of hypernutrition.

This was accomplished by feeding every three hours at first, later on, more often, the following:

A glass of milk rich in cream into which was broken one egg, flavored to suit; more cream was added and finally as high as three eggs to each glass were used every three hours.

Added to the above in proportion to the digestive capacity of the stomach were the following articles: Ice cream, custard, beef, oatmeal with cream and butter, etc.

The above constituted the dietetic regime.

The drug treatment consisted of the bromides, with 30 gr. twice daily of sodii phosphate to maintain elimination.

The ice bag was kept over the precordium most of the time for awhile as an aid in controlling the tachycardia. A cold water bottle was also placed over the thyroid gland for several hours each day.

The patient made an uneventful recovery; nausea, vomiting, etc., soon disappearing with gradual amelioration of nervous symptoms and tachycardia.

She is to-day in normal flesh and able to assume the activities compatible with her age.

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ADDRESS ALL COMMUNICATIONS TO METROPOLITAN BUILDING, ST. LOUIS, MO.

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E. J. GOODWIN, M. D., Editor.

PUBLICATION COMMITTEE:

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EDITORIAL

THE HANNIBAL MEETING.

The Fifty-third Annual Meeting of the Association will convene at Hannibal, May 3, 4 and 5. The President, Dr. Tinsley Brown, has taken a very deep interest in the welfare of the Association and has given a great deal of his time during the year to traveling over the State, addressing the county societies and by all other means at his command bringing every influence to bear upon the members and the county societies to foster and maintain an active interest in the organization. As a result of this good work we look for a large attendance at the coming session.

The program, which is published in this issue, is very attractive and shows that the program committee has given earnest attention to its preparation, and particularly to the practical value of the subjects to be discussed.

A departure has been made from the custom hitherto followed since the establishment of section meetings which will be highly appreciated by those who attend. In previous years all papers were read in the sections and it frequently happened that members were prevented from hearing certain papers which held special interest for them read in one section whilst they were listening to papers of equal interest, presented in another section. This year the program committee has arranged for

several general sessions during which those papers that treat of subjects which concern the practitioner, irrespective of the specialty practiced, will be read. In these general sessions, also, several committees of the House of Delegates will read their reports, since they touch upon certain phases of the practice of medicine in which all physicians are interested. These reports will include the Committees . on Tuberculosis, Ophthalmia Neonatorum, Public Policy and Legislation, Defense Committee, Council on Medical Education, Committee on Medical Expert Testimony, and the Committee on Cancer.

The general meetings will be held in the Assembly Room on the third floor of the Mathew-Columbus Building, the Eye, Ear, Nose and Throat Section will meet on the second floor of the same building, and the Surgical Section will hold its sessions in the Commercial Club rooms, adjoining the Mathew-Columbus Building.

REDUCED RAILROAD RATE TO HANNIBAL.

Efforts are being made to secure a reduction in the railroad fare to Hannibal and return. At the time of going to press nothing definite has been accomplished, but it is probable that the railroads will authorize a rate of one and one-third fare for the round trip.

Members attending the meeting are requested to ask the ticket agent to give them certificates showing the purchase of tickets. If a special rate is allowed, this certificate will entitle the member to a reduction in the fare on the return trip. Those members who find it necessary to change cars en route must secure certificates from each ticket agent from whom tickets are purchased.

A HOSPITAL COMMISSION FOR ST. LOUIS.

St. Louis has recently adopted a modern system of management of its eleemosynary institutions which will, if the intent of the ordinance is fully carried out, attract medical men of high professional standing and large experience to positions on the visiting staff. It will dissociate all hospitals from political influence of any kind and greatly improve the conditions affecting the medical and surgical care of the sick, while adding immensely to the teaching facilities of the medical colleges.

The ordinance provides for the establishment of a hospital board

of five members, not more than one of whom shall be from the same medical college, and of a hospital commissioner. The hospital board will be appointed by the Mayor, and the board will appoint the hospital commissioner. The business management of the hospitals will be conducted by superintendents, but the medical care of the patients will be placed in the control of the visiting staff of physicians to be appointed by the hospital board. The resident staff of physicians will be salaried and perform their duties under the direction of the visiting staff. Thus, the inmates of the hospitals will receive far better attention than it was possible to give them under the old method, and the medical profession of St. Louis will be afforded the opportunity of performing a service to the community which it would be impossible to consummate under a less liberal control of the medical affairs of the institutions.

INFORMATION WANTED CONCERNING THE MATERIAL AFFAIRS OF THE MEMBERS.

On another page we publish a list of questions which the committee on public policy and legislation desire shall be answered by each member. The object of gathering this information concerning the doctor is for the purpose of collecting statistics upon which to base certain plans to improve the financial outlook of the practicing physician. At present we have no data whatever concerning the status of the profession of the State as a class, but the Association ought to have this information in its records, that firm grounds might be established upon which to base intelligent and effective action to improve the material welfare of the members, if possible to do so. If the members will answer the questions, tear out the blank and mail to the secretary, we shall soon have statistical information of the highest value in guiding the officers to devise definite plans for the end indicated. No names are to be signed to the blanks.

SCIENTIFIC EXHIBITS OF THE AMERICAN MEDICAL ASSOCIATION.

The local committee on Scientific Exhibits for the St. Louis session of the American Medical Association is making extensive preparations for the liberal contributions which will be made by medical institutions and individual members of the profession to this department. The Scientific Exhibit has grown to be one of the most interesting and in-

structive features of the annual meetings. At this writing the following institutions have applied for space: St. Louis Health Department, St. Louis University Medical Department, St. Louis Skin & Cancer Hospital, Medical Department Washington University, St. Louis Medical History Club, Medical Department of the University of Missouri, State Pure Food and Drug Commissioner, State Veterinarian, State Board of Health, Public Recreation Commission of St. Louis, the St. Louis Anti-Tuberculosis Society, and many individuals.

MORE NEWSPAPER NOTORIETY.

We are asked to publish the following items which appeared in St. Joseph newspapers recently, and we do so with the hope that the offending physicians will not permit their names to appear in connection with articles of this character in future. The excerpts of objectionable articles published in previous issues of the JOURNAL have had a salutary effect, for members are becoming exceedingly careful about permitting their names to be published in connection with news items in newspapers relating to the treatment of persons under their care. The Council will soon take more drastic steps if members persist in pursuing such unworthy practices, and order the name of the doctor published in the JOURNAL. The objectionable articles follow:

PERFORM UNUSUAL OPERATION.

One of the rarest operations ever performed by surgeons in this part of the country, and the only one on record at the local hospitals, was performed Thursday, March 31st, at ——— hospital by Dr. ———, assisted by Dr. ——— and Dr. ———. A woman about 28 years old was operated upon, the object being to remove an abnormal growth on the abdomen.

An incision was made over the abdomen and from twelve to fifteen pounds of fat, without any muscle, was removed. The incision was made to the muscle and the entire layer of fat was eliminated. * * * The woman is able to sit up and will be removed from the hospital in a few days. * * * The case is being watched with much interest both by the attending physicians and the hospital authorities.—(St. Joseph *Gazette.*)

BLIND FROM BIRTH NOW SEES.

George Chiles walked out of ——— hospital the happiest of individuals yesterday afternoon * * *. George came here some weeks ago for treatment of a blindness which had existed in both eyes since birth, twenty-one years ago. He was operated upon before the students of the ——— college and since then has been a wonder to the other patients at the hospital. * * * From a hopeless burden upon others he will now become self-sustaining. Dr. ——— performed the operation.—(St. Joseph *News-Press.*)

FREE DENTAL CLINICS FOR PUBLIC SCHOOLS.

The St. Louis Dental Society has volunteered to establish free dental clinics in the Public Schools in St. Louis and place a competent dentist in charge to inspect and care for the teeth of the children. The offer has been accepted by the Board of Education. The first clinic will be opened in the building of the Board of Education at 9th and St. Charles streets and if the experiment proves successful other clinics will be established in the various school districts—and successful it will prove. Before very long the limousines and electrics will carry the children from the avenues inhabitated by our aristocracy to the free clinic, have their teeth cleaned and placed in æsthetic rows, for nothing. With free books, free doctors, free tooth carpentering, we need only a free millinery department to make the parental government more assured.

The large number of struggling dentists throughout the city, who would cheerfully give their services to the worthy poor, will find, with the opening of free dental clinics at the schools, the opportunity for securing bread and butter still more rare than it is at present. But we are drifting toward socialism!

TRAINING SCHOOL FOR BABIES' NURSES.

The managers of the St. Louis Children's Hospital have decided to establish a training school for babies' nurses in connection with the hospital work. There is a need for such a school in every large city. Parents are often compelled to trust their infants in the hands of ignorant young girls, concerning whose disposition, cleanliness or habits they have little or no knowledge. The school will prove a real benefit to the public and should receive the endorsement of the medical profession.

THE BUTTON.



Don't neglect to buy a Missouri State Medical Association button. It will be on sale at the registration bureau. Price one dollar. Every member ought to possess this button for it is an insignia of fellowship that all should be proud to display.

AMERICAN MEDICAL ASSOCIATION NEWS.

HOTELS AT ST. LOUIS.

Rates, Locations and Capacities of Hotels for the St. Louis Session.

Members of the American Medical Association desiring to secure hotel accommodations should write to the chairman of the Hotels Committee, Dr. Louis H. Behrens, 609 Metropolitan Building, or direct to the hotels. Many reservations have already been made and prompt attention should be given to this matter in order to secure accommodations in advance.

When writing, please give definite instructions as to the character of rooms desired, whether with or without bath, European or American plan, number of people in the party, and particularly the names of persons who are willing to share rooms.

As the section meeting places are located along Grand avenue, which is a thoroughfare about midway between the east and west ends of the city, the hotels are listed according to their location, and the time consumed in riding to the meeting-places is mentioned.

The first list comprises those hotels located in the downtown, or east, section of the city:

AMERICAN HOTEL, Seventh and Market Sts., 275 rooms, all with bath; can take 350; rate, one person, $1.50 and up; additional, $1 per person; 15 minutes from meeting place.

EDISON HOTEL, 107 N. Eighth St., 12 rooms; can take 24; rate, one person, $1; additional, $1 per person; 15 minutes from meeting place.

HOTEL GARNI, Jefferson and Olive Sts., 50 rooms; can take 50; rate, one person, $0.75 and up; additional, $0.50 per person; 8 minutes from meeting place; near Coliseum.

JEFFERSON HOTEL, Twelfth and Locust Sts., 400 rooms; can take 300; rate, one person, $1.50 and up; with bath, $2.50 and up; additional, $1 per person; with bath, $1.50 per person; 8 minutes from meeting place.

LACLEDE HOTEL, Sixth and Chestnut Sts., 170 rooms; can take 150; rate, one person, $1 and $1.50; with bath, $2 to $2.50; additional, $1 per person; 15 minutes from meeting place.

MADISON HOTEL, Broadway and Chestnut Sts., 112 rooms; can take 100; rate, one person, $1 and up; additional, $0.75 and up; 15 minutes from meeting place.

MARQUETTE HOTEL, Eighteenth and Washington Ave., 400 rooms; can take 250; rate, one person, $1.50 and up; with bath, $2 and up; additional, $1 per person; 8 minutes from meeting place.

MARYLAND HOTEL. Ninth and Pine Sts., 240 rooms; can take 200; rate, one person, $1 to $2; with bath, $2 to $2.50; additional, $1 per person; 10 miuutes from meeting place.

MOSER HOTEL, 809 Pine St., 100 rooms; can take 75; rate, one person, $0.75 and $1; additional, $0.75 per person; 10 minutes from meeting place.

PLANTERS HOTEL, Fourth and Pine Sts., 440 rooms; can take 300; rate, one person, $1.50 and up; with bath, $2.50 and up; additional, $1 per person; with bath, $1.50 per person; 15 minutes from meeting place.

PORTLAND HOTEL, 1817 Market St., 100 rooms; can take 100; rate, one person, $1; additional, $0.75 per person; 10 minutes from meeting place.

ROZIER HOTEL, Thirteenth and Olive Sts., 120 rooms; can take 180; rate, one person, $0.75 to $1.50; additional, $0.75 per person; 8 minutes from meeting place.

ST. JAMES HOTEL, Broadway and Walnut, 150 rooms; can take 200; rate, one person, $1.50; with bath, $2; additional, $1 per person; with bath, $1.50 per person; 15 minutes from meeting place.

ST. NICHOLAS HOTEL, Broadway and Market, 40 rooms; can take 25; rate, one person, $0.75 to $1; additional, $0.50 per person; 15 minutes from meeting place.

SOUTHERN HOTEL (General Headquarters), Broadway and Walnut, 400 rooms; can take 200; rate, European plan, one person, $1.50 and up; with bath, $2.50 and up; American plan, one person, $3.50 and up; with bath, $4 and up; additional, European plan, $1.50 and up per person; American plan, $3.50 and up per person; 15 minutes from meeting place.

STRATFORD HOTEL, Seventh and Pine Sts., 100 rooms; can take 150; rate, one person, $1; with bath, $1.50; additional, $0.50 per person; 15 minutes from meeting place.

TERMINAL HOTEL, Union Station, 110 rooms; can take 150; rate, one person, $1.25 and up; with bath, $2.50 and up; additional, $1.25 per person; 10 minutes from meeting place.

The following hotels are located in the West End, or residence section, of the city:

BEERS HOTEL, Grand and Olive, can take 40; rate, one person, $1 and up; with bath, $2.50 and up; additional, $1 per person; at meeting place.

BUCKINGHAM HOTEL, Kingshighway and West Pine, can take 100; rate, one person, European plan, $1.50; with bath, $2.50; additional, $1 per person; rate, one person, American plan, $3; with bath, $4; additional, $2.50 per person; 10 minutes from meeting place.

HAMILTON HOTEL, Hamilton and Maple Ave., 150 rooms; can take 50; European plan, rate, one person, $1; with bath, $1.50; additional, $1 per person; American plan, one person, $2; with bath, $2.50; additional, $1.50; 15 minutes from meeting place.

HOTEL BERLIN, Berlin and Taylor Aves., can take 25; American plan, rate, one person, $1.50; with bath, $2.50; additional, $1 per person; 10 minutes from meeting place.

USONA HOTEL, Kingshighway and McPherson, 100 rooms; can take 50; American plan, rate, one person, $2.50; with bath, $3; additional, $1.50 per person; with bath, $2 per person; 10 minutes from meeting place.

WEST END HOTEL, Vandeventer and W. Belle, can take 25; rate, one person, $1 and up; with bath, $1.50 and up; additional, $1 and up; 5 minutes from meeting place.

WESTMORELAND HOTEL, Maryland and Newstead Aves., can take 50; all rooms with bath; rate, one person, $2; additional, $1 per person; 8 minutes from meeting place.

WINDERMERE HOTEL, 5601 Delmar Blvd., American plan only; can take 25; rate, one person, $1.50; with bath, $2.50; additional, $1 per person; 15 minutes from meeting place.

PRIVATE HOMES AND BOARDING HOUSES.

In addition to the hotels listed there are numerous private homes and boarding-houses on and near Grand avenue, in close proximity to the section meeting-places, where good accommodations can be secured at rates ranging from 75 cents to $1.50 a day, American plan. Those who desire to obtain such accommodations should write to the chairman, Hotels Committee, at the address given above. State clearly what accommodations are desired, for how many people, and at what rate per day.

The street car facilities are most excellent, cars running at two and three minute intervals, and arrangements are being made for special service on occasions when the members will travel in large bodies at any particular hour. Taxicabs will also be at hand, and a special rate will be allowed for transporting the members from the Coliseum, where the Registration Bureau will be established, to the Grand avenue district.

The section and other meeting places are as follows:

MEDICINE: Third Baptist Church, Grand and Washington Aves.

SURGERY: Odeon Theatre, Grand and Finney Aves.

OBSTETRICS AND DISEASES OF WOMEN: Y. M. C. A. Building—Association Hall, Grand and Franklin Aves.

LARYNGOLOGY AND OTOLOGY: Sodality Hall, Grand Ave., between Pine and Laclede.

OPHTHALMOLOGY: Aschenbroedel Hall, Pine St., east of Grand Ave.

DISEASES OF CHILDREN: Grand Avenue Presbyterian Church, Sunday School Room, Grand and Washington Aves.

PHARMACOLOGY AND THERAPEUTICS: Delmar Avenue Congregational Church, Delmar, west of Grand Ave.

STOMATOLOGY: Y. M. C. A. Building—Small Hall, Grand and Franklin Aves.

NERVOUS AND MENTAL DISEASES: St. Louis University Library, Grand Ave., head of East Pine.

DERMATOLOGY: Odeon Building—Recital Hall, Grand and Finney Aves.

PREVENTIVE MEDICINE AND PUBLIC HEALTH: Knights of Culumbus Building, Olive St., east of Grand Ave.

PATHOLOGY AND PHYSIOLOGY: Y. M. C. A. Building—Lecture Hall, Grand and Franklin.

SCIENTIFIC AND COMMERCIAL EXHIBITS, POSTOFFICE, REGISTRATION OFFICE: Coliseum, Washington and Jefferson.

PRESIDENT'S RECEPTION: First Regiment Armory, Grand and Manchester Aves.

GENERAL SESSION: Odeon Theatre, Grand and Finney Aves.

HOUSE OF DELEGATES: St. Louis Medical Society, Pine St., east of Grand Ave.

The Committee on Section Meeting Places will endeavor to have all hall fully equipped with every needed appurtenance to facilitate the transaction of the work of the sections. Communications on this subject should be addressed to Dr. H. Tuholske, Chairman of the Committee on Section Meeting Places, 609 Metropolitan Building, St. Louis.

NEW MEMBERS

ADAIR COUNTY.

Parrish, A. W., Kirksville, Mo.
Rankin, H. Johnson, Kirksville, Mo.

ANDREW COUNTY.

Jeffries, Elmer C., Whitesville, Mo.
Wood, W. Logan, Bolckow, Mo.

ATCHISON COUNTY.

McBride, George W., Tarkio, Mo.

AUDRAIN COUNTY.

Bland, W. W., Vandalia, Mo.
Blanks, Charles L., Mexico, Mo.
Diven, Thomas H., Martinsburg, Mo.

BARRY COUNTY.

Robertson, J. S., McDowell, Mo.
Dummitt, Manford, Jenkins, Mo.

BATES COUNTY.

Martin, Charles F., Amsterdam, Mo.
Tuttle, Henry W., Adrian, Mo.

BENTON COUNTY.

Bay, Harry, Colecamp, Mo.

BUTLER COUNTY.

Davidson, A. W., Poplar Bluff, Mo.
Hayhurst, J. O., Poplar Bluff, Mo.

CALDWELL COUNTY.

Meredith, O. O., Breckenridge, Mo.

CASS COUNTY.

Chaffin, S. E. Barnes, Belton, Mo.
Dodd, C. S., Garden City, Mo., R. F. D.
Fair, S. W., Belton, Mo.
Scott, J. U., Harrisonville, Mo.

CLINTON COUNTY.

McDonald, E. S., Cameron, Mo.
Longfield, Fred, J., Lathrop, Mo.
Janes, Vincil B.,Cameron, Mo.
Kimsey, J. T., Lathrop, Mo.
Risley, C. H. Cameron, Mo.
Starks, John Charles, Gower, Mo.

COOPER COUNTY.

Hurt, Peyton L., Boonville, Mo.

GENTRY COUNTY.

Smith, George W., Albany, Mo.

HOLT COUNTY.

Hogan, Joseph L., Forbes, Mo.
Thatcher, J. T., Oregon, Mo.

HOWELL COUNTY.

Andrews, T. P., Mount View, Mo.
Williams, Jesse P., Mount Grove, Mo.

JACKSON COUNTY.

King, George A., 415 Argyle Bldg.
Mays, H. C., 520 Commerce Bldg.
Royer, Elliott, 3100 Euclid Ave.
Weiss, F. H., 27th & Benton Bl.
Robinson, G. Wilse, Argyle Bldg.

JOHNSON COUNTY.

Draper, Thomas J., Warrensburg, Mo.

LACLEDE COUNTY.

Caldwell, Thomas A., Lebanon, Mo.
Carlton, Charles E., Stoutland, Mo.
Coonce, George W., Conway, Mo.
Crawford, John R., Phillipsburg, Mo.
Summers, W. R., Conway, Mo.

LAFAYETTE COUNTY.

Clayton, Paul B., Odessa, Mo.
Tucker, Joseph E., Lexington, Mo.

LAWRENCE-STONE COUNTY.

Ament, W. F., Aurora, Mo.

LEWIS COUNTY.

McKim, John V., Newark, Mo.
O'Neal, W. C., LaGrange, Mo.

MACON COUNTY.

Belyea, J. H., Ardmore, Mo.
Sexaner, C. F., Keota, Mo.
West, C. O., New Cambria, Mo.

MARION COUNTY.

Ross, Mary S., Hannibal, Mo.

MISSISSIPPI COUNTY.

Boone, J. C., Charleston, Mo.
Davis, J. S., East Prairie, Mo.
Hodges, D. M., East Prairie, Mo.
Marshall, A. H., Charleston, Mo.
Tarr, G. H., Belmont, Mo.
Vernon, F. S., Charleston, Mo.

MONTGOMERY COUNTY.

Foreman, James Milton, Jonesburg, Mo.

PHELPS COUNTY.

Pinto, Jack, St. James, Mo.

PULASKI COUNTY.

Von Gremp, Henry J., Dixon, Mo.

PUTNAM COUNTY.

Vores, Cyril Preson, Unionville, Mo.

RALLS COUNTY.

Welsch, John A., Harrisonville, Mo.

RIPLEY COUNTY.

Byrd, William M., Oxly, Mo.
White, Homer T., Oxly, Mo.

SCHUYLER COUNTY.

Hight, Wm. B., Queen City, Mo.

SHELBY COUNTY.

Devin, James F., Shelbyville, Mo.

ST. LOUIS COUNTY.

Hanson, H., Desperes, Mo.

ST. LOUIS MEDICAL SOCIETY.

Goodman, Daniel C., 309 Century Bldg.
Mueller, Ernst H., 3548 Arsenal St.

VERNON COUNTY.

Hornbeck, J. T., Nevada, Mo.
Petty, George W., Nevada, Mo.
Walker, G. S., Harwood, Mo.
Rooks, O. R., Nevada, Mo.

Fifty-Third Annual Meeting

MISSOURI STATE MEDICAL ASSOCIATION

Hannibal, May, 3, 4 and 5, 1910

OFFICERS, 1909-10

PRESIDENT.

TINSLEY BROWN, M. D. ..... Hamilton

VICE-PRESIDENTS.

J. M. BELL, M. D. ..... St. Joseph
J. A. HARRIS, M. D. ..... Mt. Vernon
H. G. SHOBE, M. D. ..... Paris
B. W. HAYS, M. D. ..... Jackson
*J. L. THORPE, M. D. ..... Jefferson City

SECRETARY.

A. W. MCALESTER, Jr., M. D. ..... Kansas City

TREASURER.

J. FRANKLIN WELCH, M. D. ..... Salisbury

MEDICAL SECTION.

Chairman: FRANKLIN E. MURPHY, M. D. ..... Kansas City
Secretary: W. R. PATTERSON, M. D. ..... Tipton

SURGICAL SECTION.

Chairman: WILLARD BARTLETT, M. D. ..... St. Louis
Secretary: LEO RASSIEUR, M. D. ..... St. Louis

EYE, EAR, NOSE AND THROAT SECTION.

Chairman: JOHN GREEN, Jr., M. D. ..... St. Louis
Secretary: CLARENCE LOEB, M. D. ..... St. Louis

ORATORS.

Oration on Medicine: N. P. WOOD, M. D. ..... Independence
Oration on Surgery: FRANCIS REDER, M. D. ..... St. Louis

COMMITTEE ON SCIENTIFIC WORK.

FRANKLIN E. MURPHY, M. D. — LEO RASSIEUR, M. D.
W. R. PATTERSON, M. D. — JOHN GREEN, Jr., M. D.
WILLARD BARTLETT, M. D. — CLARENCE LOEB, M. D.

PUBLICATION COMMITTEE.

W. B. DORSETT, M. D., Chairman.

M. B. CLOPTON, M. D. — M. C. SHELTON, M. D.

COMMITTEE ON PUBLIC POLICY AND LEGISLATION.

R. M. FUNKHOUSER, M. D., Chairman.

M. P. OVERHOLSER, M. D. — C. R. DUDLEY, M. D.

DEFENSE COMMITTEE.

F. J. LUTZ, M. D., Chairman.

W. B. DORSETT, M. D. — JOSEPH GRINDON, M. D.

COUNCIL ON MEDICAL EDUCATION.

B. M. HYPES, M. D., Chairman.

C. M. JACKSON, M. D. — C. LESTER HALL, M. D.

COMMITTEE ON REVISION OF CONSTITUTION AND BY-LAWS.

JABEZ N. JACKSON, M. D. Chairman.

F. B. HILLER, M. D. — FRANK R. FULTON, M. D.

COMMITTEE ON TUBERCULOSIS.

E. W. SCHAUFFLER, M. D., Chairman.

GEORGE HOMAN, M. D. — JAMES MCCOMB, M. D.
C. M. MCCONKEY, M. D. — JAMES HANKS, M. D.

COMMITTEE ON MEDICAL EXPERT TESTIMONY.

W. B. OUTTEN, M. D., Chairman.

W. H. MCGILL, M. D. — JOHN ASHLEY, M. D.

COMMITTEE ON OPHTHALMIA NEONATORUM.

M. HAYWARD POST, M. D., Chairman.

J. C. SHELTON, M. D. — GUY TITSWORTH, M. D.

COMMITTEE ON CANCER.

F. J. LUTZ, M. D., Chairman.

J. F. BINNIE, M. D. — FRANK HALL, M. D.

*Deceased.

DELEGATES

COUNTY.	DELEGATE.	ALTERNATE.
Adair	E. C. Callison	
Atchison	J. W. Holliday	
Barry	A. S. Hawkins	D. E. Miller.
Barton	A. B. Stone	
Benton	W. G. Jones	H. G. Savage.
Buchanan	A. B. McGlothlan C. A. Good	H. S. Forgrave.
Caldwell	C. L. Woolsey	W. T. Lindley.
Cape Girardeau	R. F. Wichterich	
Cass	R. S. Crawford	H. Jerard.
Cedar	R. B. Marr	Kimball Hill.
Christian	J. A. Robertson	J. C. Young.
Dent	J. C. Welch	W. E. Rudd.
Henry	A. McNees	
Howard	Joel Y Hume	
Howell	D. J. Nichols	
Jasper	R. M. James	J. W. Clark.
Jefferson	R. E. Donnell	I. N. McNutt.
Johnson	D. E. Shy	
Livingston	H. M. Grace	
Madison	S. C. Slaughter	C. U. Davis.
Marion	T. A. Roselle	E. T. Hornback.
Miller	W. S. Allee	
Mississippi	J. W. Lynch	A. W. Chapman.
Moniteau	H. C. Freudenberger	W. R. Patterson.
Monroe	D. W. McGee	
Montgomery	C. A. Revelle	W. M. Wheeler.
Phelps	S. L. Baysinger	W. S. Smith.
Randolph	C. B. Clapp	F. L. McCormick.
Ray	Herman S. Major	James. W. Smith.
St. Louis City	J. H. Amerland	Wm. E. Sauer.
	Willard Bartlett	Albert F. Koetter.
	Walter Baumgarten	Warren P. Elmer.
	Louis H. Behrens	E. Lee Dorsett.
	Vilray P. Blair	Geo. Homan.
	Malvern B. Clopton	
	Geo. C. Crandall	
	Joseph Grindon	
	William W. Graves	Paul Y. Tupper.
	Louis H. Hempelmann	Wm. G. Moore.
	Thomas A. Hopkins	F. J. Taussig.
	Herman L. Nietert	Horace W. Soper.
	Walter C. G. Kirchner	
	Louis Rassieur	Wm. H. Luedde.
Ste. Genevieve	J. A. Wilkins	
Scott	Roy Frazer	
Schuyler	J. B. Bridges	
Webster	W. J. Rabenau	T. S. Burton.

Councilor Districts and Counties in Each District*

F. J. Lutz, St. Louis, Chairman. E. J. Goodwin, St. Louis, Secretary.

First District—Councilor, C. L. Evans, Oregon. Counties: Holt, Atchison, Nodaway.

Second District—Councilor, W. T. Elam, St. Joseph. Counties: Buchanan, Andrew.

Third District—Councilor, G. W. Whitely, Albany. Counties: Harrison, Worth, Gentry, DeKalb.

Fourth District—Councilor, C. R. Buren, Princeton. Counties: Grundy, Sullivan, Mercer, Putnam.

Fifth District—Councilor, E. E. Parrish, Memphis. Counties: Clark, Scotland, Schuyler.

Sixth District—Councilor, H. Jurgens, Edina. Counties: Adair, Knox, Lewis.

Seventh District—Councilor, R. H. Goodier, Hannibal. Counties: Shelby, Marion, Ralls.

Eighth District—Councilor, Walter B. Dorsett, St. Louis. Counties: Lincoln, St. Charles, St. Louis, Pike.

Ninth District—Councilor, A. R. McComas, Sturgeon. Counties: Audrain, Boone, Howard, Callaway, Warren, Montgomery.

Tenth District—Councilor, C. W. Reagan, Macon. Counties: Macon, Randolph, Monroe.

Eleventh District—Councilor, J. D. Brummall, Salisbury. Counties: Chariton, Carroll, Livingston, Linn.

Twelfth District—Councilor, E. H. Miller, Liberty. Counties: Platte, Clay, Ray, Clinton, Caldwell, Daviess.

Thirteenth District—Councilor, F. E. Murphy, Kansas City. County: Jackson.

Fourteenth District—Councilor, C. T. Ryland, Lexington. Counties: Lafayette, Saline, Cooper.

Fifteenth District—Councilor, J. A. Anderson, Warrensburg. Counties: Cass, Johnson.

Sixteenth District—Councilor, J. R. Buchanan, Nevada. Counties: Bates, Vernon, Barton.

Seventeenth District—Councilor, R. D. Haire, Clinton. Counties: Pettis, Henry, Benton, St. Clair, Hickory.

Eighteenth District—Councilor, Frank DeVilbiss, Eugene. Counties: Miller, Moniteau, Morgan, Camden.

Nineteenth District—Councilor, G. Ettmueller, Jefferson City. Counties: Cole, Osage, Maries, Gasconade.

Twentieth District—Councilor, F. J. Lutz, St. Louis. Counties: Franklin, St. Louis City.

Twenty-first District—Councilor, G. M. Rutledge, Ste. Genevieve. Counties: Jefferson, Ste. Genevieve, Perry.

Twenty-second District—Councilor, W. S. Hutton, Fornfelt. Counties: Scott, Madison, Cape Girardeau, Mississippi, Bollinger.

Twenty-third District—Councilor, T. C. Allen, Bernie. Counties: Stoddard, Dunklin, Pemiscot, New Madrid.

Twenty-fourth District—Councilor, T. W. Cotton, Van Buren. Counties: Wayne, Ripley, Butler, Carter.

Councilor Districts and Counties in Each District*

Twenty-fifth District—Councilor, C. R. Fleming, Farmington: Counties: Washington, Reynolds, Iron, St. Francois.

Twenty-sixth District—Councilor, W. H. Bruere, Rolla. Counties: Crawford, Phelps, Pulaski, Laclede, Dent, DALLAS.

Twenty-seventh District—Councilor, H. C. Shuttee, West Plains. Counties: Howell, Shannon, OZARK, OREGON, TEXAS, WRIGHT, DOUGLAS.

Twenty-eighth District—Councilor, A. H. Madry, Aurora. Counties: Greene, Lawrence, Barry, Stone, Christian, Webster, Polk, Taney.

Twenty-ninth District—Councilor, R. L. Neff, Joplin. Counties: McDonald, Newton, Jasper, Cedar, DADE.

**Counties in small capitals are not organized.*

NOTICE

All members will please register with the Registration Committee immediately upon arrival.

Sessions will be called to order at the hour fixed on the program. It is especially desired that the members be prompt in their attendance.

All papers must be typewritten and should be handed to the Secretary of the Section as soon as read.

No paper will be allowed to occupy more than twenty minutes in its reading. In the discussion, no member shall speak longer than five minutes, nor more than once on the same subject.

If the author of any paper does not respond when his name is called, his paper takes a place at the end of the program.

The County Secretaries' Association will meet at 4:30 o'clock, and continue in session during the afternoon; dinner being served at six o'clock.

Meeting Places

Mathew-Columbus Building.

House of Delegates meets in Assembly Hall.

Judicial Council meets in Committee Room, second floor.

Medical Section meets in Assembly Hall.

Surgical Section meets in Commercial Club.

Eye, Ear, Nose and Throat Section meets in Committee Room, second floor, Mathew-Columbus Building.

Hotel Rates

The following is a list of the hotels at Hannibal with the rates per day:

Mark Twain Hotel (Headquarters), American plan, $2 to $3 per day.

Conklin Hotel, American plan, $2 per day.

Kettering Hotel, American plan, $2 per day.

Windsor Hotel, European plan, 50c to $1 per day.

Union Depot Hotel, European plan, 50c to $1 per day.

Program

GENERAL SESSIONS

Mathew-Columbus Building

[Assembly Hall]

TUESDAY, MAY 3d—7:30 P. M.

Address of President.....TINSLEY BROWN, M. D., Hamilton
Address.....
B. S. WARREN, M. D., Past Asst. Surg., U. S. P. H. and M. H. S., St. Louis
Oration on Medicine.....N. P. WOOD, M. D., Independence
Oration on Surgery.....FRANCIS REDER, M. D., St. Louis

Assembly Hall

WEDNESDAY, MAY 4th—9:00 A. M.

Reading of papers. See page 751.

WEDNESDAY, MAY 4th—7:00 P. M.

Reading of papers. See page 751.

Assembly Hall

THURSDAY, MAY 5th—9:00 A. M.

Election of President.
Election of Orator on Medicine.
Election of Orator on Surgery.
Reports of Special Committees:
- Committee on Tuberculosis.
- Committee on Ophthalmia Neonatorum.
- Committee on Cancer.
- Committee on Public Policy and Legislation.
- Committee on Legal Defense.
- Council on Medical Education.
- Committee on Medical Expert Testimony.

PROGRAM

HOUSE OF DELEGATES.

FIRST DAY—TUESDAY, MAY 3d—9 A. M.

House of Delegates called to order at 9:00 a. m.
Judicial Council meets at call of Chairman.
Roll call.
Reading of minutes of previous meeting.
Reading of President's message and recommendations.
Report of Committee on Arrangements.
Report of Committee on Medical Education.
Report of Committee on Scientific Work.
Report of Committee on Public Policy and Legislation.
Report of Publication Committee.
Report of Special Committees.
Report of Secretary.
Report of Treasurer.
Appointment of Committee on Nominations.
Election of Delegates to American Medical Association. (Three to elect to serve two years.)
Proposed amendments to the Constitution and By-Laws.
Reading of Resolutions, Memorials, etc.
Selection of place of meeting.
Miscellaneous business.

Report of Councilors

1st District.....C. L. Evans, Oregon
2nd District.....W. T. Elam, St. Joseph
3rd District.....G. W. Whitely, Albany
4th District.....C. R. Buren, Princeton
5th District.....E. E. Parrish, Memphis
6th District.....H. Jurgens, Edina
7th District.....R. H. Goodier, Hannibal
8th District.....W. B. Dorsett, St. Louis
9th District.....A. R. McComas, Sturgeon
10th District.....C. W. Reagan, Macon
11th District.....J. D. Brummall, Salisbury
12th District.....E. H. Miller, Liberty
13th District.....F. E. Murphy, Kansas City
14th District.....C. T. Ryland, Lexington
15th District.....J. A. Anderson, Warrensburg
16th District.....J. R. Buchanan, Nevada
17th District.....R. D. Haire, Clinton
18th District.....Frank DeVilbiss, Eugene
19th District.....G. Ettmueller, Jefferson City
20th District.....F. J. Lutz, St. Louis
21st District.....G. M. Rutledge, Ste. Genevieve
22nd District.....W. S. Hutton, Fornfelt
23rd District.....T. C. Allen, Bernie
24th District.....T. W. Cotton, Van Buren
25th District.....C. R. Fleming, Farmington
26th District.....W. H. Bruere, St. James
27th District.....H. C. Shuttee, West Plains
28th District.....A. H. Madry, Aurora
29th District.....R. L. Neff, Joplin

GENERAL SESSION

Assembly Hall

SECOND DAY—WEDNESDAY, MAY 4th, 1910.

MORNING SESSION—9:00 O'CLOCK.

1. Some Considerations in the Examination of Children.....
.....H. S. Marsh, M. D., Tipton
2. The Effect of Adenoids and Diseased Tonsils Upon the General Health.....W. B. Post, M. D., Carthage
3. Diffuse Dilatations of the Esophagus.....
.....C. C. Conover, M. D., Kansas City
4. Clinical Significance of Epigastric Symptoms.....
.....H. C. Crowell, M. D., Kansas City
5. Secondary Gastric Manifestations in Chronic Appendicitis.....
.....Jesse S. Myer, M. D., St. Louis
6. Conditions Affecting the Functions of the Biliary Apparatus Which Demand Surgical Interference.....
.....Louis J. Dandurant, M. D., St. Joseph
7. What Shall We Do With Patients With Advanced Uterine Cancer?
.....Frank Hinchey, M. D., St. Louis
8. On Fallacies in the Understanding of Antiseptics.....
.....Marsh Pitzman, M. D., St. Louis
9. Surgical Suggestions.....T. F. Lockwood, M. D., Butler
10. The Treatment of Trifacial Neuralgia by Deep Injections.....
.....Vilray P. Blair, M. D., St. Louis
11. Carbuncles: Etiology and Treatment.....
.....William Frick, M. D., Kansas City
12. Syphilis Insontium.....Halsey M. Lyle, M. D., Kansas City

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EVENING SESSION—7:00 O'CLOCK.

1. X-Ray Localization of Foreign Bodies.....
.....R. D. Carman, M. D., St. Louis
2. Fulguration in the Treatment of Cancer.....
.....F. J. Lutz, M. D., St. Louis
3. The Clinical Recognition of the Scaphoid Type of Scapula and Some of Its Correlations.....Wm. W. Graves, M. D., St. Louis
4. Hypnotism As a Therapeutic Agent...J. M. Bradley, M. D., St. Louis
5. Insanity as a Defense for Crime and the Remedy.....
.....John Punton, M. D., Kansas City
6. A Digest of Legal Discussions in This State Touching the Rights and Liabilities of Physicians and Surgeons.
.....John Ashley, M. D., Bloomfield

MEDICAL SECTION

FIRST DAY—TUESDAY, MAY 3d, 1910.

AFTERNOON SESSION—2:00 to 5:00 O'CLOCK.

1. Enuresis.....C. A. Revelle, M. D., New Florence
2. Life Insurance Examinations..George W. Goins, M. D., Breckenridge
3. Malarial Infection and Childhood...J. H. Timberman, M. D., Marston
4. The Recognition of Lung Tuberculosis.....
   .....O. H. Brown, M. D., St. Louis
5. Clinical Deductions in the Study of Tuberculosis.....
   .....William Porter, M. D.. St. Louis
6. The Concentration of Bacilli in Tuberculous Sputum.....
   .....William K. Trimble, M. D., Kansas City
7. The Civic Responsibilities of the Doctor in the Tuberculosis Problem.....N. P. Wood, M. D., Independence
8. Conservation by the X-Ray.....W. L. Brosius, M. D., Gallatin

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SECOND DAY—WEDNESDAY, MAY 4th, 1910.

AFTERNOON SESSION—2:00 to 5:00 O'CLOCK.

1. Visceral Syphilis.....William Engelbach, M. D., St. Louis
2. Problems Offered by Dermatoses Coexisting with or Erroneously Ascribed to Syphilis.....Joseph Grindon, M. D., St. Louis
3. The Practical Importance of the Wassermann Reaction.....
   .....John W. Marchildon, M. D., St. Louis
4. Colica Mucosa.....E. H. Thrailkill, M. D., Kansas City
5. Tuberculin Therapy.....Geo. C. Crandall, M. D., St. Louis
6. The General Practitioner and Affections of the Nose and Throat..
   .....E. H. Miller, M. D., Liberty
7. Psycotherapy vs. Eddyism.....R. Willman, M. D., St. Joseph

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SURGICAL SECTION

Commercial Club

FIRST DAY—TUESDAY, MAY 3d, 1910.

AFTERNOON SESSION—2:00 O'CLOCK.

1. What is the Best Treatment for Acute Spreading Peritonitis?....
   .....H. S. Crossen, M. D., St. Louis
2. Operations for the Cure of the More Severe Types of Uncomplicated Lacerations of the Pelvic Floor.....
   .....Howard Hill, M. D., Kansas City

3. Vesico-Vaginal Fistula.....R. F. Amyx, M. D., St. Louis
4. Resection of the Large Intestine for Malignant Disease.....
.....C. M. Nicholson, M. D., St. Louis
5. Cases Illustrating Some Points in the Surgery of the Large Bowel.....John Young Brown, M. D., St. Louis
6. Membranous Pericolitis.....Jabez N. Jackson, M. D., Kansas City
7. The Appendix Stump.....M. G. Seelig, M. D., St. Louis
8. Intestinal Obstruction.....O. Beverly Campbell, M. D., St. Joseph
9. Intestinal Obstruction from Appendiceal Adhesions.....
.....C. R. Dudley, M. D., St. Louis
10. Rupture of the Intestine from Abdominal Traumatism.....
.....H. P. Kuhn, M. D., Kansas City
11. Myomectomy for Uterine Fibroids....W. J. Frick, M. D., Kansas City
12. Review of the Literature on Post-Operative Phlebitis.....
.....W. A. Clark, M. D., Jefferson City

SECOND DAY—WEDNESDAY, MAL 4th, 1910.

AFTERNOON SESSION—2:00 O'CLOCK.

1. Cocaine Anesthesia in Herniotomy.....
.....Cortez F. Enloe, M. D., Jefferson City
2. Anomalies of the Inguinal Canal.....
.....Wm. A. McCandless, M. D., St. Louis
3. Paget's Disease of the Nipple, With Report of an Interesting Case.....Ernst Jonas, M. D., St. Louis
4. Bladder Stone.....Ernest G. Mark, M. D., Kansas City
5. The Technique of Immediate Closure of the Bladder Following Suprapubic Cystotomy.....C. E. Burford, M. D., St. Louis
6. Prostatectomy Without Opening the Bladder, by the Perineal Route, with Immediate Suture.....
.....Arthur E. Hertzler, M. D., Kansas City
7. Carcinoma of the Penis.....W. E. Leighton, M. D., St. Louis
8. Estheomine: Report of a Case, With Exhibition of Photographs.
.....C. L. Castle, M. D., Kansas City
9. Bursitis.....J. F. Binnie, M. D., Kansas City
10. The Surgical Treatment of Bone Tuberculosis in the Adult.....
.....Alexander E. Horwitz, M. D., St. Louis
11. Osteophites of the Os Calcis.....J. D. Griffith, M. D., Kansas City
12. Further Experience With the Internal Splint in the Treatment of Fractures.....Herman E. Pearse, M. D., Kansas City
13. Isolated Fractures of the Greater Tuberosity of the Humerus....
.....E. P. Porterfield, M. D., St. Louis
14. The Bladder in Inguinal and Femoral Herniæ.....
.....W. T. Coughlin, M. D., St. Louis

EYE, EAR, NOSE AND THROAT SECTION

Committee Room—Second Floor

FIRST DAY—TUESDAY, MAY 3d, 1910.

AFTERNOON SESSION—2:00 O'CLOCK.

1. A Suggestion in the Treatment of Trachoma.....
.....E. T. Hornback, M. D., Hannibal

Discussion opened by John C. Faris, M. D., Caruthersville.

2. Suppurative Ethmoiditis.....J. D. Pifer, M. D., Joplin
3. The Combined Effect of Dionin and Eserin in the Treatment of Chronic Glaucoma.....W. A. Camp, M. D., Springfield
   Discussion opened by B. E. Fryer, M. D., Kansas City.
4. Surgery of the Nasal Septum.....W. D. Black, M. D., St. Louis
5. Otitic Cerebral Abscess with Rare Ocular Symptoms.....
   .....Carl Barck, M. D., St. Louis
6. Conservatism in Acute Mastoiditis.....
   .....Fayette C. Ewing, M. D., St. Louis
7. Lantern Demonstration of Pathological Specimens of the Middle Ear.....L. K. Guggenheim, M. D., St. Louis
8. Leprosy, as Seen at the San Lazores Hospital of Havana.....
   .....F. B. Tiffany, M. D., Kansas City
9. Symptoms Indicating Surgical Operation for the Radical Relief of Deafness from Chronic Catarrh.....
   .....R. Barclay, M. D., St. Louis

MISSOURI SOCIETY of MEDICAL SECRETARIES

ASSEMBLY HALL.

FIRST DAY—TUESDAY, MAY 3d, 1910.

AFTERNOON SESSION—4:30 O'CLOCK.

The Society of County Secretaries will meet on Tuesday afternoon, May 3d, at 4:30. Dr. Frederick R. Green, Assistant to the General Secretary of the American Medical Association, will be present and deliver an address. Other papers on the program are:

What Should County Societies Do with Advertising Doctors? By Dr. Bert B. Parrish, Kirksville, Mo.

Some of the Duties of the County Secretary. By Dr. E. L. Stewart, Kansas City, Mo.

The Young Men in the Society; How to Interest Them. By Dr. J. L. Burke, Laclede, Mo.

A six o'clock dinner will be served at the Commercial Club.

Questions to be answered for the information of the committee on public policy and legislation, that statistics may be collected and form the basis of a plan to improve the material welfare of the members. This information is to supplement the data sent by county secretaries recently.

Age?.....

Single, married or widowed?.....

How many years have you been in practice?.....

What has been your average income per year during the past five years?.....

Do you practice general medicine?.....

Do you limit your practice to a specialty? If so, what specialty?.....

.....

Do you own your own home?.....

Is your home encumbered?..... To what amount?.....

Are you indebted otherwise?..... To what amount?.....

What are you worth financially?.....

What educational advantages have your children enjoyed?.....

.....

Have you been a defendant in a malpractice suit?.....

What was the outcome of the suit?.....

COUNTY SOCIETY NOTES

CASS COUNTY MEDICAL SOCIETY.

The regular meeting of the Cass County Medical Society was held in the "Rest Room" in the Court House, Harrisonville, Mo., April 7th. The following members were present: Drs. H. A. Brierly, H. S. Crawford, A. R. Elder, H. Jerard, M. P. Overholser, R. D. Ramey, J. S. Triplett.

Dr. A. W. McAlester, Secretary State Association, was present and read a paper on "Trachoma." His paper was of very practical value to the country practitioner, as it was along the line of treatment that could be carried out in our offices. All of the members present took part in the discussion of the paper.

The quiz, "Surgery of Chest Wall," by Dr. M. P. Overholser, was well prepared and thorough. The members present were able to get a great many good ideas and an excellent review on this subject. This was the feature of the post-graduate work that the society is taking up.

At the next meeting, June 2d, Dr. C. L. Allen, a veterinarian, will read a paper on "Bovine Tuberculosis." The society is taking active means to look after public sanitation, reports on vital statistics, quarantine regulations, and elimination of the house fly, by asking the appointment of an executive committee from the citizens health committee, to meet once each month to discuss and publish reports on vital statistics and questions of public health.—H. S. CRAWFORD, M. D., Secretary.

HOWARD COUNTY MEDICAL SOCIETY.

Howard County Medical Society met at Fayette on April 1st. The following members were present: Drs. Lewis, Lee, Wright, Bonham, Kitchens, W. R. Hawkins, Burgwin, Moore and Watts.

Dr. W. R. Hawkins was elected alternate delegate to the state meeting at Hannibal.

Drs. Moore and Thompson, for the Committee on Chiropractics, reported that nothing could be done until the case now in the Supreme Court was decided.

A letter from Dr. W. C. Abbott was read concerning the Mann bill in the United States Senate, and the society unanimously resolved to oppose its passage. The secretary was instructed to so inform our representatives and senators.

Drs. Lee and Smith reported two cases of smallpox and several cases of scarlatina and rubeola. The cases were all well quarantined and no danger of an epidemic was anticipated. The city council met with the board of health and ordered that a penalty be assessed against any doctor who failed to report contagious diseases.

The secretary spoke of the coming meeting of the State Association at Hannibal and urged that a large delegation from Howard County Society attend.

The next meeting will be held at Glasgow, June 3d.—C. W. WATTS, Reporter.

JASPER COUNTY MEDICAL SOCIETY.

At a recent meeting of the Jasper County Medical Society, the following officers were elected for the year 1910: President, Dr. C. C. Cummings, Joplin; vice-president, Dr. M. E. Steele, Carthage; secretary, Dr. Mary L. Mack, Joplin; treasurer, Dr. A. B. Freeman, Joplin; delegate, Dr. R. M. James, Joplin; alternate, Dr. J. M. Clark, Carterville; board of censors, Dr. R. L. Neff, Dr. A. B. Clark, Dr. M. H. Langan.—Mary L. Mack, M. D., Secretary.

MONTGOMERY COUNTY MEDICAL SOCIETY.

The Montgomery County Medical Society met at the office of Dr. Muns, in Montgomery City, April 13th, Dr. Revelle presiding. Those present were Drs. C. A. Revelle, D. O. Hudson, E. W. Tinsley, J. L. Jones, David Nowlin, G. E. Muns, W. M. Wheeler and B. F. Menefee.

A measure known as the Mann bill, introduced in the U. S. Senate by Senator Cullom, of Illinois, was read by the secretary and after some discussion was condemned by unanimous vote and the secretary instructed to communicate this action of the society to Representative Champ Clark and solicit his opposition to the passage of the bill. Dr. Nowlin's talk on surgery for the country doctor was short and to the point and brought out some practical thoughts.

Application of Dr. B. F. Menefee for membership was received and acted on favorably.

On motion it was determined to hold our next meeting at Mineola on Tuesday, June 8, and that the meeting should be purely social in character. The members are to take their families and friends and spend the day in fishing, boat-riding and bathing.

Our society now numbers only ten, but they are earnest and enthusiastic and are getting much benefit from our organization, and we feel that those of the profession who persist in remaining out of the society are depriving themselves of advantages which they should be enjoying.—W. M. Wheeler, M. D., Secretary.

NODAWAY COUNTY MEDICAL SOCIETY.

Nodaway County Medical Society met in regular session on April 12th, at Maryville, with the following members present: Drs. Todd, Anthony, Wallis, Jr., Dean, Crowson, Wells, Barnet and Fisher. The program was a discussion of typhoid fever. Dr. Crawson gave an interesting talk on diagnosis. Dr. Todd brought out many good things on complications and sequelæ, after which all present took an interesting and profitable part in the general discussion.

Drs. Wells and Wallis, Jr., outlined a serious case of contusions, lacerations and fractured skull due to the work of a stalk cutter and runaway team. Dr. Anthony presented an interesting case of gunshot wound.

Many interesting and valuable points were brought out in the regular program and the general discussion so that every member present went away feeling that he had been made a better doctor. It was one of the best meetings we have had in a long time.

The society meets again on May 10th and will take dinner together at the Linville Hotel. A good social time will be had, after which the general subject of fractures and dislocations will be discussed.

JOURNAL MISSOURI STATE MEDICAL ASSOCIATION

Volume VI JUNE, 1910. Number 12

ORIGINAL ARTICLES

THE POSSIBILITIES OF THE *X*-RAY IN THE DIAGNOSIS OF EYE, EAR, NOSE AND THROAT CONDITIONS.*

By Edward Holman Skinner, M. D., Kansas City, Mo.

The localization of foreign bodies in the orbit was probably the first field of usefulness for the *x*-ray in the specialties under discussion. In November, 1895, William Conrad Roentgen made the announcement of the discovery of the *x*-ray. It was in March, 1896, that a Doctor Van Duyse made a report before the Medical Society of Gand, in which he related experiments upon rabbits. He used small sensitized plates, which he introduced within the conjunctival sac. I have found a record of the application of the Mackenzie-Davidson method of localization for this purpose as early as January, 1896. (British Medical Journal, January 1, 1896.) Many others now busied themselves with this problem of the location of a foreign body but it was the apparatus devised and reported by Dr. William M. Sweet, in 1897, that has served as the model for many other inventors. Before entering upon a description of this and other apparatus, I desire to mention two other extremely practical methods of eye localization. The fluoroscopic method: in which the shadow of the foreign body is produced upon a fluorescent screen and the excursion of this shadow is dimly shown when the eyeball is moved during the examination. While I have seen foreign bodies located in the eyeball by this method, I do not recommend it, as it necessitates an unwarranted exposure of the patient and the operator.

Another method that has been in use for many years, introduced by Dr. Alban Köhler, of Wiesbaden, calls for the taking of a lateral view

*Read before the Eye, Ear, Nose and Throat Section of Jackson County Medical Society.

of the head, focusing on the orbital area. This first negative gives the record of the presence or absence of a foreign body. A second negative is taken and during the exposure the patient is ordered to move the eyeball from a position in which the sight is directed downward to the opposite direction, *i. e.,* upward. This second negative will then show in a majority of cases whether the foreign body is within the eyeball or within the tissues of the orbit, *i. e.,* if the foreign body shows a blurred shadow corresponding to the excursion of the eyeball, we are to conclude that the body rests within the eyeball. This is a practical method and is recommended where the *x*-ray operator has not one of the more exact apparatus for the location of the foreign body by the stereoscopic method.

The stereoscopic method of localization was the basis of the Sweet apparatus. In this method, the location of any foreign body is studied in its relation to two opaque objects of known location. In my laboratory I have used the Sweet-Bowen apparatus, which embodies the original invention of Sweet with modifications by Dr. Chas. Bowen of Columbus, Ohio. I shall take pleasure in demonstrating this method. Dr. Sweet has recently modified and improved his apparatus, but I feel that the Sweet-Bowen method has proved so satisfactory that I shall be content until some newer and simpler principle be discovered.

In the Sweet-Bowen apparatus, the first negative is taken with the tube directly above the two small balls. The second negative is taken with the tube a few inches nearer the body of the patient and tube angle slightly tilted toward the balls. The head of the patient has been fixed securely and the relation of the balls to the pupil of the affected eye is not changed for either exposure. After the negatives are developed, the relation of the foreign body to the small balls is plotted on the chart arranged by Dr. William M. Sweet.

I shall merely mention, *en passant,* the methods of Fox and Born, both of which involve the use of a thin sheet of vulcanized rubber or celluloid for the imbedding of fine wires, and shaped to accommodate themselves to the contour of the anterior portion of the eyeball. These are introduced after cocainizing the conjunctiva, and the relation of the foreign body to these wires is determined in the finished negative. Also the method of Cowl, which involves the location of the shadow of the foreign body upon one negative, laterally, and one, in which the film is placed within the mouth of the patient and the tube is placed above the eye, perpendicularly. The method of foreign-body localization by Fürstenau, is interesting, in this a double focus tube is used and the shadow of the foregn body, in its relation to two fixed opaque objects attached to the body of the patient, is charted upon the resulting negative by a specially devised compass instrument. I have seen this method used to advantage in locating foreign bodies in parts other than the eye.

Other than the location of foreign bodies, I do not think at present of any other condition of the eye-ball itself in which the *x*-ray could be of diagnostic assistance. But in the diagnosis of orbital tumors, fractures

of the orbit, and tumors of the brain, or the bone tissues which produce pressure, it is of importance. Tumors which involve the hypophysis and give us pathological shadows of the sella tursica, with probable pressure of the tumor mass upon the optic commissure, can be demonstrated to advantage.

I shall now take up the province of the *x*-ray in diseases of the ear. First and foremost, I would speak of the diagnostic value of the *x*-ray in the mastoid conditions. The normal shadow of the mastoid shows the cells and structure. The relation of the lateral sinus to the mastoid can be charted upon the roentgen negative. This can be of great assistance to the operating surgeon in cases of mastoid abscess, for is it not far better to know the distance of the lateral sinus from the exterior wall of the mastoid than to chisel into an unacquainted field of broken down tissue? Dr. Sidney Lange, of Cincinnati, reported the results of his studies in this new work at the last meeting of the American Roentgen Ray Society, and it was also reported to the otologists by Iglauer, so if I repeat facts that are too well known to you, I beg your indulgence. Up to the time of Dr. Lange's studies the roentgen examination of the mastoid region consisted of negatives taken in the posterior-anterior position or vice versa, for a comparison of the shadow values of the two mastoids in the detection of a suppurative condition in either or both mastoids. Also lateral views of the mastoid region were made of the two sides of the head, thus affording a comparative study of the two. These examinations are satisfactory in the diagnosis of suppurative processes, but it was the new position of the tube and the plate that produced the negative that enabled the operator to determine the relation of the lateral sinus to the mastoid region. The technique for this position necessarily is difficult and must be determined by accurate measurements, in order to have the views of the two sides correspond for comparison.

Lange states that: "Since the external auditory meatus and the groove for the lateral sinus are readily identified upon the skiagram, the distance between these two landmarks may be measured approximately, always allowing for slight oblique distortion, and thus the area of the operative field may be determined. This is of no small consequence, as the choice of operative procedures may depend upon whether there is a forward lying sinus or not. Three types of normal mastoid processes are recognized by Politzer: the pneumatic or cellular type, the diploetic or spongy type, and the mixed types. The pneumatic type is extensive, has numerous large and small cells, and the lateral sinus is usually placed some distance back of the external auditory meatus, giving plenty of room for the usual operative procedures. In the diploetic or dense types, the mastoid process is small, has fever and poorly developed cells, and the lateral sinus lies nearer the external auditory canal. In these cases there is more danger of chiseling into the lateral sinus, and more caution is necessary in operating." The presence of cells in the base of the zygoma may also be shown.

In the diagnosis of pathological conditions of the mastoid region, aside from the anatomic points to be derived from the *x*-ray negatives, I might enumerate some characteristics. In the mild types of mastoid inflammation there is still a great field for research before we can definitely state whether the changes in mastoid pathology minus bone destruction can be shown upon the negative. In chronic inflammation, the *x*-ray gives practical and valuable information, showing sclerosis and haziness of the mastoid cells or obliteration of the mastoid cells. Then we have that class of cases with general or localized septic symptoms originating in a chronic necrotic mastoid. It is obvious that the *x*-ray would help to clear up the diagnosis in these.

I would not pass over lightly the value of the *x*-ray and its pre-eminent position in the diagnosis of the presence of foreign bodies in the external auditory canal, or the location of bullets in this region. The inflammation and swelling of the tissues, which interfere with inspection and clinical examination, does not in the least prevent the accurate location of a foreign body of almost any character; furthermore, the worry and pain of the patient is not increased by the *x*-ray method.

The nasal and accessory cavities: In my discussion of this field I have drawn largely from the work of Dr. E. W. Caldwell, of New York; the new Text-Book on Roentgen-Technik, by Prof. Albers-Schoenberg; personal study with Dr. Fedor Haenisch, of Hamburg, Docent Dr. Oertel of the Charite, Berlin, and Dr. Artur Schüller, of Vienna. The examinations in my laboratory have followed the principles of these men and have proved delightfully satisfactory.

I take it for granted that it is not necessary to reiterate to this audience the value and ease of location of foreign bodies in any part of the body, and especially within the cavities or orifices of the body where their location by inspection or transillumination necessitates the subjection of the patient to pain and discomfort and is of doubtful consequence. In this field, the *x*-ray stands alone and undefiled.

Negatives taken in the posterior-anterior position with the frontal sinuses in close proximity to the photographic plate, give us shadows that aid us in the outline of the frontal sinuses, ethmoidal sinuses and the antrums of Highmore. The outline of the septum and nasal bones is plain. We are able to draw conclusions as to the extent and pathological condition of the frontal and ethmoidal sinuses and the antrums of Highmore. The shadow of a pus-filled sinus is easily distinguished from that of the normal of the opposite side, or, if both are involved, there will be the absence of the normal transparency of these areas upon *x*-ray negatives.

Negatives of the lateral view of the head give us the depth of the frontal sinuses and the shadows of the sphenoidal sinus. The superposition of the shadows of the frontal, antral and ethmoidal sinuses, in the lateral view, require a careful estimation and interpretation of their

values. But after considerable study has been given to these shadows, it is easier to make a correct estimate of their values.

Just as in the contemplation of operative procedures upon the mastoid, so we may estimate the extent and amount of involvement of frontal sinus pathology by the roentgen method. The shadows of this area are conclusive diagnostic values.

The antral shadows, while more complicated than the frontal, are more than a mere aid in the diagnosis of septic and inflammatory conditions. Will you pardon me if I again repeat the absence of pain and discomfort to the patient in these *x*-ray examinations as compared to the examination of cavities by transillumination? It is not my intention to discredit the transillumination method of examination, for it has its values, but we are able to draw the same conclusions from this pleasanter *x*-ray method.

The x-ray negative of the facial area may also disclose certain anatomical anomalies, such as the presence of a sinus in the lower border of the orbit, or the absence of a frontal sinus, or an obliterated antrum. I saw a case that presented no signs of inflammation but extreme pain beneath the orbit, which turned out to be an inflammation of an anomalous sinus.

Pharynx and larynx: I shall not discuss the presence of foreign bodies, but will present some slides later. However, I would like to mention some peculiar pathological conditions such as the presence of calcareous areas in the tonsils and Stenson's duct, which will show up on *x*-ray negatives. These deposits are usually so easily determined by palpation that they are rarely referred to the roentgenologists for such diagnosis, but are found in the course of examinations for other conditions. Calcification of the thyroid and cricoid cartilages will give characteristic shadows. Another condition which could be cleared up if the unpleasant and distressing bronchoscope was impossible, would be the determining of the area of involvement of a tracheal constriction or cancer with the air space of the trachea showing up to a lessened degree.

The anatomical position of the hyoid, thyroid and cricoid cartilages, and the position of the epiglottis, may be determined by the roentgen negative. The patient with throat symptoms, but pathological changes in the vertebræ of the cervical region, is frequently seen by the laryngologist. We are able to study out these bony changes with ease by careful roentgen examinations in both the anterior-posterior, lateral and oblique positions. Arthritis rheumatica, with its attendant bony changes and exostoses in the vertebræ, may be classified under this heading. The deposit of calcareous material and arteriosclerosis of the carotids and similar pathological conditions of the glands of the neck and mouth, are also to be mentioned.

Dr. Max Scheier, of Berlin, has contributed a monograph upon the "Use of the *X*-ray in the Study of the Physiology of the Speech and Voice." I feel that this subject warrants a special paper as I have now

extended my paper beyond my original intention. Eykman also published, in 1908, an article upon deglutition, in which he made many observations upon the positions of the hyoid bone and the adams apple in their relation to throat physiology. His roentgen examinations were made by cinematographic pictures, the first on record (1901). I feel that up to the present time I have not given this subject enough study to make an intelligent report to you who are so well grounded in throat anatomy and physiology. I shall, therefore, withhold a report upon this until I have given more time to translation and study.

There is a possible field for the *x*-ray in determining the possibilities of an individual as regards his fitness, anatomically, for voice culture. We know that the resonance of a voice depends upon the use that the singer makes of the accessory sinuses. Therefore, if the anatomy of these cavities be not normal in an individual or voice student, and there did not seem to be the ability of such cavities or sinuses to ever approximate a size to insure sufficient resonance, it would be a blessing to know this before years of study and application had been expended uselessly. While it is quite possible to develop a sinus just as it is possible to develop a muscle, it would be folly to attempt to put an accessory sinus where there was a congenital absence or a pathological sclerosis.

In closing, permit me to present the following outline of the possibilities of the *x*-ray in your specialities:

1. The *x*-ray stands preëminent in the location with exactitude of foreign bodies in the eye, ear, nose and throat.

2. The *x*-ray is a valuable assistant in the diagnosis of the pathological changes in any of the bony tissues of the ear, orbit, nose and throat, whether this change be a necrosis that is clearly and unmistakably recognized, or whether it be the presence of an exudate that alters the density of the shadows of a part.

3. The *x*-ray gives us definite information regarding the anatomy of those cavities which cannot be obtained in any other way than through operative procedure.

4. The *x*-ray permits us to study the physiology of speech, singing and deglutition.

5. By the process of diagnosis by exclusion the probability of sinus involvement will be excluded, where we have pains of a neuralgic character.

6. The *x*-ray serves as an assistant in an operative procedure looking to the extraction of a foreign body from a sinus, or cavity, or orifice, by noting that the instrument used to grasp the foreign body is actually attached to such body. This later service is best afforded by the fluoroscope, thus insuring a vivid picture of operation in progress.

208 Arlington Building.

SOME REMARKS ON DISEASES OF THE GALL-BLADDER AND GALL DUCTS.*

By Robert M. Funkhouser, M. D., St. Louis.

The subject of diagnosis and treatment of diseases of the gall-bladder and gall ducts is one of the most difficult and most important in medicine. That diseases of these structures produce death in a very great number of cases—far greater than is appreciated—there can be no doubt.

Diseases of the gall bladder and gall ducts may or may not be associated with gall-stones, which are not of primary but of secondary importance, in so far as they are not the primary factors of the disease. Inflammation of these structures is partially explained by the theory of micro-organisms, the presence of which acts in a determining manner. The same general causes are present here as where calculi form, which as yet are not fully understood. Calculi may be either in the bladder (gall), hepatic, cystic or common ducts. The infection of the micro-organisms may be either through the portal vein, or by the intestinal tract. Naunyn has shown the invariability of the infectious origin of gall stones; they are merely an incident of the disease.

The first essential to diseases of the gall bladder and gall ducts is an impediment to the outflow of bile, either from the ducts, bladder, or common ducts. Stagnation is usually followed by infection, with an increase of mucin and chlolesterin; or to express it more conservatively, with the infection there is a slowing or stagnation of the outflow of bile, with an increase of mucin and chlolesterine, an increased amount of the latter being formed as age advances. With the exception of epithelium and foreign bodies, every substance which enters into the composition of gall-stones is to be found in solution in normal bile. If the bile remains healthy, if the mucous surfaces of the ducts and bladder remain normal and there is no occlusion nor slowing nor stasis of the bile, there will be no inflammation, no deposit; but should the patency of the tubes and bladder be affected for any length of time, then the bile becomes changed and deposit follows. But it is not necessary for stones to be present to cause many of the symptoms peculiar to the formation and presence of stones, as where catarrhal inflammation may be induced in the mucous membrane of the bladder and the fluid contents of the organ so increased in quantity and so altered in quality that change or decomposition takes place. That there may be other factors, time and study in the future may decide.

*Read at the annual meeting Missouri State Medical Association, Jefferson City, 1909.

Occlusion of the cystic and common duct, and infection of the bile in the gall-bladder likewise cause similar symptoms, but without the presence of calculi. They are by no means necessary to explain the symptoms present.

The usual *symptoms* in inflammation of the gall bladder and ducts are pain, tumor jaundice; one or more may be absent.

The pain is not always characteristic, as it may be and has been mistaken for that of gastric ulcer, appendicitis, renal colic, movable kidney; certain pains, such as may be present in tabes, inflammatory adhesions in the region of the pylorus and duodenum, aneurysm of renal artery, and other rare conditions (Brewer, 1904).

There may be no appreciable tumor, but when present, may consist of accumulations of mucus (hydrops), (2) accumulations of bile with or without calculi, (3) empyema, (4) cholecystitis with local inflammation, (5) malignant disease.

The jaundice may be temporary or continued. It is absent in from 80 to 90 per cent. of cases of cholelithiasis.

In some cases it is shown only by a slight icteric tinge in the conjunctiva, (after a time becoming chronic,) induced by catarrh, and may spread from the gall-bladder and cystic duct to the hepatic and common bile ducts and to the pancreatic duct.

The causes of jaundice may be due:—

1. Gall stones in common duct.
2. Interstitial pancreatitis.
3. Cancer or other tumor of common bile-duct or of papilla or of the duodenum near it.
4. Cancer of head of pancreas.
5. Cicatricial stenosis of common bile-duct from healing of an ulcer due to gall-stones that have passed.
6. Cicatricial stenosis of papilla, owing to healing of a duodenal ulcer.
7. Pressure from without, as in cancer or ulcer of pylorus or inflammation or growth of the lymphatic glands in close proximity to the bile-ducts.
8. Obstruction of the common duct by hydatid cysts or hydatid membrane.

Impaction of a gall-stone in the common duct is usually indicated by a distinct history of biliary colic, immediately preceding the onset of jaundice. Intermittent jaundice may, however, occur if a small gall-stone floats up and down in a dilated common duct, acting as a ball valve.

The pain radiating to the angle of the scapula behind and tenderness elicited by examination, is indicative of disease, especially in that method used by Murphy, known as Murphy's sign, referred to by Bishop so favorably. The most certain sign, however, is dependent upon finding them in the fæces, but not the masses nor detritus, which are frequently delivered to doctors by patients as such. The evidence of stones, in the ma-

jority of cases is circumstantial. The frequency with which mild but recurrent attacks give rise to pericystic and pyloric adhesions is not fully appreciated by the profession. Many of the attacks of the gall-bladder colic are caused by acute cholecystitis in the presence of ducts constricted by inflammatory swelling without the presence of stones. It is not an uncommon experience with surgeons to find, upon opening the abdomen, evidences of severe inflammation of the peritoneum in the neighborhood of the gall-bladder, with adhesions sometimes involving the stomach, liver, intestines, pancreas and gall-bladder and ducts, without the presence of stones in the gall-bladder or ducts. This is seen so often that great care should be exercised in making a positive diagnosis before operation.

Where the continuation of the following symptoms persist, it is characteristic of the existence of gall-stones in the common duct: 1. Jaundice of varying intensity, deepening after each paroxysm. 2. Ague-like paroxysms, characterized by chills, sweating and fever, followed by deepening of the pre-existing jaundice. 3. At the time of paroxysm pains in the region of the liver with epigastric disturbance. Sudden chills, with high temperature, followed by rapid decline, and a little temporary increase in jaundice, attended with moderate pain and often nausea, are pathognomonic of common duct stone. And it is in these cases that a second operation in common duct stone may be necessary, since hepatic stones may drift down into the common duct subsequent to a choledochotomy.

Acute impaction of stone in the common duct may require prompt operation. When a patient presents the history and usual symptoms suggestive of acute impaction in the common duct and has, in addition, evidences of progressive infection, such as persistent jaundice, intermittent fever and sweats, the only chance of salvation, is in immediate operation. And yet the mortality of operation in such cases is appallingly high, as in these cases there is often an acute hepatic infection.

The diagnosis of chronic interstitial pancreatitis has to be differentiated from gall-stones in the common duct, cancer of head of pancreas and cancer of liver and bile ducts. From gall-stones it may be made by the sequence of long antecedent history of spasms without jaundice and after a time by recurring pains with increase of the icterus associated with ague-like attacks. The absence of tumor, due to distended gall-bladder, is more common in gall-stones than in chronic pancreatitis, though in the latter the gall-bladder may be found contracted. In cholelithiasis and cholecystitis there is a tendency to constipation, whereas in chronic pancreatitis, the stools are bulky, pale and greasy, and there is a tendency to frequent motions, sometimes designated as diarrhœa. In chronic pancreatitis the pain, as a rule, is less than in gall-stones. In gall-stones and cholecystitis the pain is over the gall-bladder, while in chronic pancreatitis it is in the middle line and the gland can sometimes be felt.

Acute pancreatitis is frequently caused by impaction of a calculus in the diverticulum of Vater. It must not be overlooked that the reason

that calculi impacted in the diverticulum of Vater do not more often cause disease of the pancreas is because in two-thirds of the cases there is an accessory pancreatic duct (of Santorini), and in 10 per cent. of patients, the common duct and the duct of Wirsung empty into the duodenum by separate orifices.

In chronic pancreatitis, the pains radiate to the left or to the mid-scapular region. The presence of neutral fat in the stools and of the pancreatic reaction in the urine, both of which are important diagnostic points. Ascites may be present. The lymphatics are discrete and not massed, the pancreas is lobulated and smooth; in cancer it is craggy and nodular.

In cancer of the common duct, not infrequently associated with gall-stones, there is early persistent jaundice which becomes absolute. There is paroxysmal pain, the liver becomes enlarged, and a tumor can be detected, due to a distended gall-bladder. Anæmia follows, with *hemorrhagic tendency,* and later ascites appears with biliary toxemia.

In cancer of the head of the pancreas, occurring usually after 50 years of age, the onset is gradual, preceded by general failure of health, and when jaundice supervenes, is absolute and unvarying. There may be present a tumor of, but usually no tenderness of, the gall-bladder. The liver becomes enlarged, but no nodules palpable; there is a rapid loss of weight and strength; absence of fever; the stools are bulky, pale and there is absence of stercobilin. Deep jaundice, with distended gall-bladder is significant of cancer of head of the pancreas. Adhesions are usually absent in cancer of this organ.

In cancer of the liver, the enlargement is irregular with nodular feeling, rapid deterioration of health, less intense jaundice than in some other diseases (as cancer of the common duct), absence of fever, paroxysmal pain, and ascites.

G. R. Slade, of the London Hospital, says that malignant disease was present in 30 per cent. in which gall-stones have been found at the post mortem examination. It appears from his and other observations that gall-stones predispose very frequently to cancer. From the above observations, it is obvious that gall-stones should be removed before serious complications ensue, for, as a matter of fact, the removal of gall-stones and subsequent drainage of the gall-bladder has been followed by cancer very rarely, and only two cases have been recorded in the voluminous literature on the subject.

Treatment: What is the proper procedure in the treatment of these cases? It is agreed that there is no effective procedure for the dissipation or dissolution of calculi already formed, but that of operation. The same holds good in the treatment of certain conditions in inflammation of the gall-bladder and gall ducts with absence of calculi.

Two main operations obtain, viz: cholecystotomy, or cholecystostomy and cholecystectomy. The important question is to determine upon the correct operation in each given case. Operations have been divided

into two main groups: 1. Cases which should be operated upon between attacks of activity, either for drainage and for removal of stones if present, or the prevention of subsequent attacks and septic complications, and if stones are present, from their future growth. 2. Those in which there are adhesions that obstruct the duodenum and intestinal obstruction produced by a stone.

In deciding between extirpating and draining the gall-bladder, the comparative dangers of the two methods, the comparative efficacy of curing inflammation and of removing and preventing the occurrence of gall-stones, of the advantages of temporary drainage of the biliary passage, and of the possible necessity and increased difficulty of draining the passage at some future time (at a second operation), should be carefully weighed.

There appears to be a reaction against the teaching of the indiscriminate resort to cholocysectomy in those cases in which the gall-bladder is not irretrievably diseased. There are sound reasons why it should not become a routine operation.

It is interesting to note the opinions expressed by operators now and at different periods of their career. The same spirit of radicalism is seen in connection with operations upon the gall-bladder as has existed regarding other structures.

Where the operation is limited to the opening of the gall-bladder, the mortality is slight, less than 1 per cent., according to some authorities. The Mayos report 1,000 cases of operations on gall-gladder and bile passages; 50, or 5 per cent. died; 573 cholecystostomies, 2.46 per cent.; 186 cholecystectomies, 4.3 per cent.; 137 benign common duct operations, 11.7 per cent.

According to the statistics given by Mayo Robson, the death rate in cholecystostomy has been 1.47 per cent.; in cholecystectomy, 1.62. But the statistics are not uniform. Drainage will usually clear up jaundice and permit the parts to return to their normal condtion, even when the bile ducts have become infected. An interstitial pancreatitis and chronic jaundice due to compression of the bile-ducts, can be more efficiently treated either by cholecystotomy or -cystostomy if the gall-bladder is present. Even if the gall-bladder is removed, there is no certainty that stones will not form in the common duct (which may become dilated), nor in the hepatic. Bile is constantly being formed in the liver at the rate of 30 c.c. per hour. In 24 hours 72 c.c. of mucus is added to the bile in the gall-bladder. The loss of the gall-bladder may lead to dilatation of the common duct.

Cholecystotomy (tostomy) must be considered the safe operation, the cholecystectomy being reserved for certain cases in which cholecystostomy may be expected to furnish a partial or complete failure. In some cases long continued drainage, with proper local treatment, is indicated, extending over a number of weeks.

J. Bland Sutton is one of the strongest advocates of cholecystectomy

under all circumstances, but I cannot agree with him, Woods Hutchison, Roswell Park, and others, who believe the gall-bladder has no function and is a useless and comparatively functionless organ, a vestigial structure, analogous to the vermiform appendix, and that it should be removed under all circumstances when diseased.

It is proper in old contracted, enfeebled and useless gall-bladders, and in some cases where the gall-bladder is thickened and inflamed, or even gangrenous, or if it is much dilated, or if there is hydrops or perforation. Other things being equal, all cystic gall bladders should be removed, and especially when a stone is impacted in the cystic duct, as not infrequently a stricture may follow removal, thereby interfering with the escape into the common duct of the normal secretions of the mucous membrane, thus giving rise to colics or an external mucous fistula. The surgeon, however, should be sure the deep ducts are free from obstruction.

Empyema of long standing with the cystic walls irretrievably diseased, requires cholecystectomy. In cases of doubt, cholecystostomy is preferable.

The increased difficulty of secondary operation in cases where the gall-bladder has been already extirpated, is an argument in favor of cholecystotomy.

Deaver gives his opinion that cholecystectomy should be done in:

(1) Hydrops with obliteration of the cystic duct.

(2) Malignant growths.

(3) Calcareous degeneration, gangrene, and perforation of the gall-bladder.

(4) Chronic empyema, and certain kinds of traumation.

He is constrained to say that the more gall-bladder surgery he does, the less inclined he is to remove the gall-bladder.

Patients with an enlarged liver bear operations better than those whose liver is atrophic. The size of the liver in cases of stone in the common duct should be watched. The same applies to small gall-bladders. Patients with small gall-bladders bear removal badly. Patients with extreme jaundice and subcutaneous hæmorrhage will nearly always bleed to death from capillary oozing.

As a rule, gall-bladders which are found to contain bile at the time of operation, may be drained. Where no trace of bile is found in the biliary passages in obstructive jaundice but a clear liquid, the case is hopeless. Gall-bladders which are suspiciously thick and hard, should be excised. Symptoms of common and liver duct infection call for drainage of the gall-bladder. The most common cause of death, where the gall-bladder alone is involved, has been a descending infection of the common and hepatic ducts.

RECAPITULATION.

1. The very common occurrence of cholecystitis and cholangitis, with symptoms very similar to those present in stones of the gall-bladder and ducts.

2. The deprecation of removal of the gall-bladder as a uniform and routine procedure.

3. The advisability of drainage, and, in some cases, quite lengthy (weeks or months).

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Richardson.

WHAT MEDICAL INSPECTION OF SCHOOL CHILDREN MEANS TO THE PUBLIC.*

By C. W. Tooker, M. D., St. Louis, Mo.

To those of us engaged in the practical solution of the problem of securing the best health conditions in the schools, and to those interested in raising health standards in general, the necessity for a paper of this nature is apparent.

Only by a regular, systematic examination of the children in the schools, and by repeated suggestions and recommendations regarding ascertained abnormalities, can we secure for the men and women of the future that health and happiness so essential to culture and efficiency.

Sanitary science has taken its proper place in the affairs of men and we may reasonably expect that hygienic conditions will obtain in public buildings, and soon also in dwellings. Sociologists everywhere are endeavoring

*Read before the St. Louis Medical Society, December 20, 1909.

to convince men and women of the necessity of hygienic surroundings and of normal life habits.

Boards of health and boards of education recognize the importance of medical inspection of schools for the purpose of excluding pupils ill of contagious diseases. There is no need of further argument to establish the fact that schools regularly inspected are freer from exanthematous and other contagious diseases than are schools not so inspected. But enough attention has not been given to the physical and mental abnormalities of children during that period in life when most can be accomplished, namely, during the first two decades. Correction of abnormalities early in life are more easily accomplished and promise more certain and permanent benefits than at any other time.

What business can a community possibly find more profitable? Our insurance companies are writing millions of dollars of insurance on lives that will be unnecessarily shortened by reason of abnormalities unrecognized and not corrected early in life. Why not begin to insure our physical condition in childhood? We know that many abnormalities of children result in impoverished blood, lowered resistance to infections, over-tension of special senses and early degenerations. One can easily see what immense returns would accrue to a community by the investment of moderate sums to prevent such deterioration of physical and mental power. The wealth and stability of a nation must depend, in the final analysis, on the physical and mental stamina of its citizens, and the children of to-day will soon be active integral parts of the nation. The more one thinks on the matter the more he wonders that inspection of school children has not been insisted upon earlier. One of the objections to the regular examination of school children seems to have been, that it was an unwarranted intrusion in matters purely personal to the parents. But that public work cannot be an intrusion which has for its only object the improvement of the health of future citizens, and which interferes with, or usurps the rights of no one.

The need for school inspection becomes more apparent the further we progress in the actual work.

We are now examining the children in the east end schools only.

General conclusions can be obtained of course only from a consideration of statistics from all schools throughout the city and in other cities. Such statistics have been compiled and are available for study. There is a surprising uniformity in these reports and the results of our examinations vary but little from them. Everywhere we find comparatively little attention given by parents to the physical condition of their children, and everywhere the need of examination by regularly authorized boards of inspectors is apparent. In our work we may classify parents into at least three groups: First, those who regularly employ a physician and have for some reason or other not been informed as to physical abnormality in their children. They generally do not resent any examination and are usually glad to have such abnormalities corrected. Second, those parents

who are rather indifferent as to the real health of their children, providing they do not suffer from any of the usual well-known "dangerous" diseases. It is rather difficult sometimes to convince these parents of the necessity for correcting ascertained abnormalities; but they can be convinced. It is in these instances that the family physician, if capable and interested, or the school nurse, can accomplish most. The latter can explain carefully to the parents, preferably in their homes, the value and necessity of medical or surgical attention. Third, those parents to whom children are accidental, unnecessary, and almost utterly neglected. With them little can be accomplished. I have spoken at length about parents for the reason that we must depend upon them, finally, for results, and any system of examining must make provision for following up cases of manifest abnormality or deficiency. The examiner's recommendation secures to the child medical or surgical attention in many instances, but we feel that we could secure definite results in almost all of our cases if some one could personally enforce our recommendations in the homes of the children. It is the expression also of other workers in the field that only by a systematic follow-up plan can best results be attained.

In a general way, socially and economically considered, one may easily see the value to the public of such regular, systematic examinations of school children as will insure the best health and efficiency, but definite specific benefits may easily be adduced.

What can that child learn who is constantly annoyed by the blurring of letters in reading, by headaches, by sensitiveness to light, or who is always fatigued by close attention of any kind? What can one accomplish whose blood is continuously impoverished by deficient oxygenation and whose brain is anaemic or inundated with unoxydized products, Is it not of value to the public to produce mentally and physically alert youths to carry on its work and plans? In after years these physically defective children fall an easy prey to infections, to nerve exhaustions, and frequently become a burden to the State. With a lowered resistance and probably inherited tendency to abnormality, what chance has such a child in the modern struggle for existence? Whose is the responsibility, if not the general public's who neglected to provide a means of detecting and correcting conditions at the most favorable time? This matter has no mere theoretical interest. Distressing, even alarming conditions confront us and demand practical consideration. In a few months we will be able to furnish a report of practical significance; even now, after working scarcely four months, we have information at hand showing practical results in hundreds of cases.

I have tabulated in this paper the findings in the first examination of about 1150 pupils. Of course this report is merely illustrative and not truly statistical, but it shows the great and immediate need of examinations of children. These children all live in what we call the east end, and the percentage of abnormality is high. We must never forget, however, that the health and lives of these so-called lower classes are of

as much potential value and significance to the State as the health and lives of any of its children. On the one hand we do not know how great or how valuable any of them may become, and, on the other hand, we do not know what a menace, morally and physically, many of them do become unless freed of abnormalities which must unfavorably affect their outlook on life and their participation in life.

A brief explanation of the following figures is necessary. No abnormality has been scheduled which is not definitely demonstrable and which does not now, or which will not soon, affect the child's health unfavorably.

Among the eye defects recorded are, errors of refraction, trachoma, chronic conjunctivitis, astigmatism, strabismus and opacities of the lens and cornea. Among the ear defects are tabulated only acute or chronic otitis media purulenta. Among the throat abnormalities are recorded enlarged tonsils, adenoids and chronic pharyngitis. The condition of the teeth, both temporary and permanent dentition, has also been noted. These abnormalities are selected only as illustrative and do not represent the entire physical condition of the children examined. The abnormalities, however, do or will materially interfere with the progress of the child and prevent him attaining that education and culture to which he is entitled.

Partial Report of 1150 Examinations:

Eye (only)	113,	about 9%
Throat (only)	142,	about 12%
Eye and throat	71,	about 7%
Teeth (only)	182,	about 15%
Teeth and throat	143,	about 12%
Teeth and eye	146,	about 13%
Teeth, eye and throat	132,	about 11%
Normal	176,	about 16%

Another Arrangement of Report of 1150 Examinations.

Children with abnormal eyes	462,	about 40%
Children with abnormal throats	488,	about 40%
Children with dental caries or irregularities	603,	about 52%
Normal children	176,	about 16%

In view of findings of the above nature we may, I think, be pardoned for insisting on the necessity for examination of school children. It might be urged that these health conditions prevail only in the poorer districts, but that statement is not substantiated by general statistics although abnormalities are of course much more frequent among children of the tenements. Again, it might be said that mere examination, without treatment, has only an academic interest and does not accomplish any practical results. It is, of course, impossible for us to treat these conditions discovered by us. The various physicians in the city, the parents and the school authorities are not in favor of such a method of caring for

pupils of indigent parents. The report of the various clinics throughout the city, will, however, clearly demonstrate that practical results are being obtained and many physicians can personally vouch for the accuracy of such reports and for the amount of good already accomplished.

To return to the subject of the paper, how can any one question the benefit to the public of examinations of school children. The opportunities are large and the results very encouraging. The benefit to the public health will be apparent in a very few years. The immediate benefit is accruing daily in lessened contagious diseases among children and greater efficiency in educational work.

RETROPERITONEAL SHORTENING OF THE ROUND LIGAMENTS.

By W. E. Dicken, M. D., Oklahoma City, Okla.

Alquie, of Montpieliar, France, appears to have been the genius who first conceived the idea and proposed a plan of shortening the round ligaments to correct downward and backward displacements of the uterus. He called the operation, which he had only performed on animals and the dead subject, Utero *Inguinoraphia,* which name was soon dropped for a shorter and better one.

The Academie de Medicine condemned the proposal of Alquie *in toto,* both as regards the possibility of permanently correcting uterine displacements, by shortening the round ligaments, and as regards the practicability of the operation itself. The Academie, however, passed a vote of approbation on Alquie for his prudence in never having attempted his operation upon a living woman.

Deneffe, with the courage of the recent graduate, was the first to attempt the operation upon a living woman, at Ghent, Belgium, in June, 1864. During his student days he had frequently practiced the operation successfully upon the cadaver, and immediately upon obtaining his degree, requested an opportunity to shorten the round ligaments upon the living woman, avowing his confident belief that he would be able to carry the operation to a successful conclusion, which was granted. In the presence of the masters of his day, the operation was undertaken upon a patient suffering from prolapsus, and he failed to find either round ligament, although he opened up the entire inguinal canal on both sides. The patient recovered from the attempt but the masters were called to account by the Hospital Commission, for permitting experiments upon patients committed to their care.

Thereafter the idea seems to have slumbered in the medical mind until December 14th, 1881. William Alexander, of Liverpool, performed the first successful shortening of the round ligaments, upon the living woman. This operation has since been known as the "Alexander Operation," with which we are all familiar, and I might add, has almost become obselete except in selected cases.

In considering the most rational treatment of the displacements of the uterus, it hehooves us

First: To assure ourselves of the certainty of the diagnosis.

Second: To determine accurately the degree of displacement.

Third: To ascertain whether the displaced organ is reducable.

Fourth: What are the apparent causes, and

Fifth: Is the disorder of place of the uterus associated with disease of the so-called uterine appendages?

So simple an element of diagnosis as the determination of the degree of the displacement, is important, for on its findings rests often times the decision of the urgency of local treatment. Is the uterus mobile and natural in this particular, or is it immoble and fastened in its abnormal posture? A satisfactory solution of this feature in diagnosis shapes materially our plan for management of the case.

Experience unmistakably proves that, while a displacement is occasionally the primary link in the chain of the pelvic disease, as a rule, the disorder of the uterus is only secondary to some recognized disease.

To secure success, in the treatment, this must receive proper consideration, and that too, early in the management. It may be an easy matter to replace the uterus, and possibly retain it in normal position, but such does not imply a cure or even a relief.

Taing this for granted then, we must take some time if need be, to ascertain whether it is some impediment in the circulation of the womb and its adnexa or from some other cause. If found that the trouble is of circulatory origin, then if this cannot be relieved by mechanical or medical means, some surgical measures must be resorted to.

In my experience I have found that the uterus need not necessarily be misplaced to a surgical measure, to cause quite a disturbance in the circulation, and on the other hand I have found an aggravated misplacement of the uterus and seen the woman enjoy perfect health, without any symptoms of a disturbed function. Now, it would be absurd to resort to surgical measures in this case, just because of the displacement alone.

A complete and accurate diagnosis then of the intrapelvic condition, uturine and parauterine, are paramount for success, and from it the deduction of a rational treatment; this is by no means always easy of accomplishment.

Fritsch, of Bonn, Germany, asserts that no so-called displacement is abnormal and that retroversion is not unnatural.

Perhaps there is no part of the whole field of the subject of uterine displacement which has excited so much interest and discussion, nor

which, even to-day, is so much *sub judice* as, what is the best surgical movement to be made in this direction.

The Alexander operation has its place in gynecologic therapy, but in my judgment its field is very limited; in fact, so very limited that I have adandoned it almost altogether and in its place have substituted a relief by mechanical supports, or other simple measures. In other words, any displacement which can be benefited by an Alexander operation or its modifications, can likewise be equally improved without any operation whatsoever; simply more time is needed. It is not worth while then, it seems to me, to give it further consideration.

In the desire to extend the use of the principle of the operation to women with diseased appendages or having adhesions, various intra-peritoneal operations have been invented, which are known by the name of the inventor.

The operation of suturing the round ligaments to the uterus, or in folding the intra-abdominal portion of the round ligament upon itself in various ways, as was done first by Wylie, Dudly, and Mann, has long since been abandoned and is considered now only a matter of history.

Webster and Baldy conceived the idea of shortening the round ligaments by piercing the broad ligaments beneath the Fallopian tube, seizing the round ligaments and drawing its free position through the opening in the broad ligament and suturing it to the posterial surface of the uterus at or about the level of the internal os. The operation has been stamped as a failure;

First, because it depends for its strength upon the weakest portion of the ligament.

Second, in order for it to be successful, we must have intra-peritoneal adhesions between the round ligaments and the posterior surface of the uterus; and

Lastly, it is anatomically incorrect as it fastens the round ligaments behind the uterus and at a point at least 2 cm. below that intended by nature.

Gilliam received the suggestion for his operation from Ferguson, who, in 1899, proposed to suspend the uterus by suturing the proximal third of the round ligaments to the anterior abdominal wall. Gilliam's operation has the merit of simplicity, but it divides the pelvic cavity into three segments (one external to each round ligament and one between the ligaments), and one of which may serve as a pocket in which the bowel may become incarcerated. This led Simpson in 1902, to propose the the retroperitoneal shortening of the round ligaments, at the meeting of the Southern Surgical and Gynecological Society.

At this meeting papers were also read by Doctors Ferguson and George H. Noble, describing other methods of shortening the round ligaments by means of abdominal sections and fastening the ligaments to the anterior wall of the abdomen.

Since 1902, the retroperitoneal shortening of the round ligaments, as

proposed by Simpson, has been carried out by various gynecologists in a sligthly different manner, so that the technic of the operation will now be described as it is performed by myself, giving full credit to Simpson for the conception of the principles, and Kelly, Mann, and Ill for the steps of the operation.

The patient is prepared the same as for any abdominal section. The abdomen is opened through the right rectus muscle a little to the right of the median line. An incision two inches in length is usually sufficient, but a much larger one is sometimes better, in order to see the complications met with.

Whatever complications are present must be delt with by the separation of adhesions, and the removal of anything that must be removed.

Then our round ligament is caught about 5 cm. from the cornu of the uterus, and provisional ligature of silk is passed under it. This point is about one-third distant from the cornu of the uterus to the internal abdominal ring. If the round ligament is long enough to permit, it is caught again at a point half way between the provisional ligature and the internal ring, and is held by means of an artery forceps.

This point is then sutured to the round ligament at tis junction with the uterus, by the means of two chromicized catgut sutures. If the round ligament is rather short this part of the operation may be omitted, and with the cases I have operated upon, the results seem to be the same. However, theoretically, it is much better to double the round ligament back and suture it to the cornu of the uterus. As a result of these sutures, the uterus is held forward, by that portion of the round ligament which runs through the inguinal canal. The proximal two-thirds of the round ligament now forms a loop, the middle of which is caught by the provisional ligature just described.

By pulling upon the provisional ligature, the anterior face of the broad ligament is exposed and the peritoneum covering is caught just below the round ligament, making a hole large enough to admit the index finger.

If the operator stands on the patient's right side, the next step of the operation is to open the sheath of the left rectus muscle. A blunt aneurysm needle with a long curve, is then passed between the aponeurosis of the external oblique muscle and the rectus muscle. The needle is passed under the sheath of the rectus to the outer border of the muscle, and then penetrates the rectus and passes beneath the peritoneum to the internal ring. The point of the needle is then made to follow the round ligament along the anterior face of the broad ligament to the rent in the peritoneum already described. This can be done much easier if your assistant will elevate, rather than make lateral traction, upon the abdominal wall.

When the needle emerges through the rent in the peritoneum, it is threaded with the provisional ligature and the needle is withdrawn, bringing with it the provisional ligature.

Now, all that remains to be done is to make gentle traction upon the provisional ligature and, by so doing, you bring the loop of the round ligament up through the broad ligament and the internal abdominal ring, beneath the peritoneum of the anterior abdominal wall to the outer border of the rectus muscle, then through the muscle and between it and the aponeurosis of the external oblique until it emerges in the abdominal incision. If the peritoneum should be dragged in front of the round ligament it must be separated to permit of its retraction. The loop of the round ligament is now sutured by two sutures of chromicized catgut, to the under surface of the aponeurosis of the external oblique. I usually prefer interrupted sutures.

The operator then passes to the opposite side of the patient and the other round ligament is treated in like manner. The abdominal incision is then closed, and the patient required to keep her bed for two weeks.

I cannot see how the retroperitoneal shortening of the round ligaments could interfere either with pregnancy or labor as the ligaments should develop during pregnancy as they do after the Alexander operation, and should not lead to dystocia. But my experience has been too short, and as it has only been two years since my first operation of retroperitoneal shortening of the round ligaments, I am unable at this time to give you my final conclusions upon these points, but I shall endeavor to do so at some future time.

HYPOKINESIS; ATONY OF THE INTESTINES; CONSTIPATION.

By James Whitman Ousley, M. D., Kansas City, Mo.

In spite of the very numerous researches on this disease, there is still no uniform agreement as to the true nature and the etiology of chronic constipation. Some authors claim that a motor insufficiency is the primary cause; other authors, as Schmidt, consider the question from a biochemical point of view, and accuse the secretion and intestinal digestion of being the principal pathogenetic factors. We would suggest to take the good of every hypothesis. In the first place, we have to remember that there is not such a nentity as constipation in pathology. The term constipation merely expresses the fact that the bowels do not move regularly. Now right here we must ask, what is a regular bowel-movement? It is true, we know by experience that healthy persons have, as a rule, one bowel movement a day. But we are not allowed to conclude from this empirical fact, than an individual is sick if the bowels do not move every

day. The only measure we have for stating a constipation is the periodicity and the quantity of the movement. If a person notices a change in this periodicity, if there is no regularity of bowel movements, we consider the person constipated. Furthermore, a person is constipated if the bulk of fæces, which amounts in the average up to 250 c.c. per day, is remarkably decreased.

If we deal with constipation in this article on hypokinesis, it is because the vast majority of cases depends upon a diminished peristalsis. We emphasize this in contradistinction to Schmidt, who claims that motor disturbances are not primary. There are, however, cases in which the intestinal peristalsis is increased, cases of hypokinesis, spastic conditions, which led many authors to establish the definite group of spastic constipation. There are, finally, mixed cases showing alternations of atony and spastic conditions. The etiology of atonic habitual constipation is, as the term habitual indicates, in the main neglect. Many young women have the bad habit of retaining the movements. It is furthermore the lack of exercise in people with a sedentary mode of life. Many people are so busy that they forget to spare the time necessary for these vital functions. The movements become gradually slow, the patient tries to secure a bowel movement with laxatives, the constipation will very soon become chronic and no laxative will help. This is the history of thousands of cases and it teaches us very nicely how important the kinetic or mortoric stimulus is for bowel movements, how much bowel movement and peristalsis are under the control of psychical impulses and nerve-stimuli. This is still more obvious if we consider that constipation is in an intimate relationship to mental and psychical conditions. In people with a lack of agility of mind, in stupid individuals, there is often a tendency to constipation. In fact constipation is the consequence of many nervous conditions. This leads us to the form of constipation designated as spastic constipation. In neurasthenic, and more frequently in hysterical individuals, the intestines, instead of being atonic are in a spastic condition. The spasm usually involves a part of the large intestine.

We must finally consider diseases of other organs, as being the primary cause of constipation. In the first place we have to mention the group of gastrogenetic constipation. The most various gastric disorders may give rise to a constipation. Atonic and catarrhal condition of the stomach, hyperchlorhydria, as well as achylia, cause constipation.

Diseases of the liver, of the heart, and of the kidneys, are often accompanied by constipation. In anæmia and chlorosis, the constipation is of course due to the poor peristalsis of the intestines.

Schmidt claims that constipation is due to a too thorough digestion and absorption of food in the intestines. According to his view the number of bacteria, which are living normally in the gut, is diminished. As a consequence, the products of decomposition are decreased and thence the stimulus for peristalsis is failing. This might be true to a certain extent. It would, however, be wrong to generalize this view.

Symptomatology: The subjective symptoms are in many cases not very marked. On the contrary there are numerous patients feeling quite well in spite of a constipation of several days. On the other hand, chronic constipation may give rise to a great variety of symptoms. The patients complain of headache, dizziness due to congestive conditions in the head. Or there exists insomnia and a mental depression, all kinds of indisposition of the heart. The patients also lose their appetite and complain of gastric symptoms as nausea, pyrosis, pressure after meals and other symptoms of indigestion. The local symptoms are mostly colic-like pains in the abdomen. The latter is often distended. In spastic conditions we can palpate contracted loops of gut, and can even feel the fæcal masses.

After some time the bowels may begin to move spontaneously and very often a profuse diarrhœa follows after the period of constipation. Usually, however, the movement is forced by a laxative, or by an enema.

A very grave symptom of chronic constipation is an intestinal colic, which is usually observed in spastic constipation. The patient is suddenly attacked by a severe pain in the abdomen. This pain may be so severe as to compel the patient to lie down, and may lead to unconsciousness. We find the abdomen distended. The patient feels some relief if flatus is passed. But the pain occurs again and is only ended if spontaneously, or by some means, a bowel movement is secured. These attacks are not quite harmless. Some patients offer the picture of a collapse and show even the symptoms of an ileus, with vomiting of fecal masses. Owing to the stagnation of fecal masses in the colon, dilatatiions of this part of the intestines may arise.

Diagnosis: It is easy to diagnose the presence of a constipation, that is to say, of a diminution of the frequency of bowel movements. It is, however, in many cases very difficult to determine the true nature of the constipation and to find out the primary cause. It is, therefore, in the first place indispensably necessary to examine the whole body of the patient to determine whether the patient is anæmic of chlorotic, neurasthenic or hysterical. In a local examination we should pay attention to all the abdominal organs, to the liver, the stomach, etc. The history of the patient must be considered carefully, in order to find out whether some historical data justify the suspicion of organic lesions of the intestines. Furthermore, we have to examine for piles. In women the sexual organs have to be examined, for we know how intimate the relation of the uterus and its adnexa is to the intestinal tract. Retroversions and adhesive processes in Douglas pouch are very often the primary cause of a constipation.

In the atonic form of constipation, the abdomen is usually distended. Pains are not very pronounced and mostly absent. The patient shows a psychical depression, headache and dizziness. The feces in an atonic constipation are harder than usual and mostly covered with a layer of mucus.

In spastic constipation the general condition of the patient may be

quite good. In this form, however, pain in the abdomen is much more pronounced. The above described colics with dizziness, and even loss of consciousness, are very characteristic of spastic constipation. The feces differ very much from that of atonic constipation. We find in spastic constipation a fragmentated bowel-movement: i. e., the patient's bowels move in small portions. We find either threads or pencil-like dry pieces, or small hard scybala. The bowel-movement is frequently very painful. On palpation we can feel, in spastic constipation, some contracted portions of the intestines. If the bowels have not moved for a long time, we can feel by palpation the individual scybala in the colon descendens.

Therapy: The main task of our therapeutical measures will be the treatment of the primary disease. In most cases the patients, consulting the physician have tried various kinds of laxatives. These have to be excluded, and we must try to bring the patient so far as to obtain bowel movements without the stimulus of laxatives or purgatives. We can influence the patient in three ways:

(a.) By suggestive factors.
(b.) By dietetic measures.
(c.) By general hygienic measures.

The suggestive treatment plays a great part in the therapy of chronic constipation. If we are able to influence our patients in this direction, our results will be satisfactory. Since peristaltic motion of the guts is not under the control of our will power, we are of course not able to stimulate peristalis directly by psychical stimuli, as suggestions. It is entirely erroneous to believe that by having the patient try a movement every day at the same time, the patient would get his regular bowel-movement. This fails in many cases and the patients become disappointed very soon. It is far more rational to distract the attention of the patient from this matter. Our aim must be to render bowel-movement an involuntary action, as in the normal. We must bring the patient to the point of not thinking of his disorder and of doing everything that is necessary to obtain bowel movements mechanically and unconsciously. All the measures applied in the therapy of constipation should have the character of procedures that are useful for a general treatment. The patient ought not to know that he is applying the measure in order to get a normal bowel-movement. On the contrary, the physician ought to tell the patient not to think of bowel movement at all, to assure him that a constipation of a few days would not do harm and that by applying some general measures the bowels would become normal spontaneously. We advise the patient, however, to go to the toilet every morning at the same time, after having taken a glass of cold water. Now although this rule has been given thousands and thousands of times, it has been carried out in the wrong way, and the patient did not get the right instruction. If a normal person

feels the desire of moving the bowels, he sits down, and the abdominal pressure begins the work. The only voluntary muscular action is the contraction of the abdominal muscles. This is, however, the ultimate action in the whole bowel movement. The feces pass through the whole intestinal tract, without our voluntary aid. First, after having arrived in the rectum, a contraction of the anal sphincter causes our desire for emptying the bowels, and we assist in this by contracting our abdominal muscles. In a normal person but a slight abdominal pressure is sufficient to bring about a complete movement. The feces pass through the anus almost involuntarily. From this we can deduct very easily how erroneous it is to advise a patient to try to have a bowel movement. This contracting his abdominal muscles, even if it were at a regular time every day, is practically useless. His peristalsis is poor and there are no feces in the rectum. The more the patient directs his attention to the bowels the slower peristalsis will be; since, as we have seen, intestinal peristalsis is not under the control of our mind. Moreover, all the impulses of peristalsis originate from the spinal chord and from involuntary centers, and, we know, the farther these centers are from the control of the brain, the better they work. Attention would inhibit peristalsis rather than stimulate it. To be brief, we advise the patient to make a habit of going daily to the toilet at the same time, sitting there for 15 to 20 minutes without thinking of bowel movement at all. In order to distract his mind from this matter, it would be recommendable to read a newspaper or something else. This is the very best means to eliminate any disturbing influence of the cerebrum By this habitual sitting on the toilet at regular times, we will by and by get a regular peristaltic movement.

The dietetic treatment is different according to the character of the constipation. In any case, however, the patient should avoid food-stuffs which are known to cause constipation, as heavy meat, smoked beef, red wine, strong tea, cocoa and chocolate.

In an atonic constipation the diet should consist of food-tuffs which increase peristalsis, such as fruits and vegetables, spinach, salad, cauliflower, peas, cabbage, rye bread, butter and honey. Buttermilk, firuit-juices, oranges, etc., are likewise recommended. Patients with a spastic constipation are not allowed to eat food-stuffs containing much cellulose. They prefer therefore a diet which gives a bulky stool without stimulating peristalsis too much. Butter and honey should be taken in great quantities.

Recent researchs have shown more and more that no sharp line can be drawn between spastic and chronic constipation, and most of our modern authors have given up the sharp distinction between both conditions, especially in the therapeutics. As a matter of fact, in many cases spestic and atonic conditions are co-existent at the same time. We have to treat every case individually and have to find out in every individual case what food agrees with the patient best. In any case the food must be so as to furnish a sufficient bulk for the feces; that is to say, it must be

rich in matters that are not absorbable, this being in the main cellulose. In a case with a pronounced atony of the intestines, the food must contain this cellulose in a coarse form. In spastic constipation, however, the cellulose must be finely distributed in the food. The salient point in treating constipation by dietetic measures is not so much the quality of the food as the manner of its preparation. Thus patients with atonic constipation will eat all the food-stuffs in a coarse preparation, as normal people do; whereas patients with spastic conditions will take the food mainly in a pulpy form. Now, unfortunately, even cellulose is partly reabsorbed in the intestines. Consequently, the remaining bulk is not big enough to form a good stool. For this it is necessary to have a large amount of non-absorbable matters in the intestines. This induced Schmidt to apply a substance not at all digestible and soluble in the intestinal tract, this substance being agar-agar, the well-known medium of bacterial cultures. Agar-agar is a hemi-cellulose, containing but 0.6 per cent. pure cellulose. If it is ingested in small particles it becomes very voluminous by absorbing large amounts of water, and thus it forms a big bulk. Agar-agar does not stimulate peristalsis, but it furnishes a bulky stool. In order to exert at the same time a stimulus, Schmidt applies a preparation of agar-agar containing a very small dose of cascara sagrada, 15-25 per cent. of the watery extract. This preparation is furnished by the chemical manufactory of Helfenberg in Germany, under the name of "regulin." The patients take daily about one teaspoonful up to two tablespoonfuls of regulin —about 1½-8 grams with marmelade or mashed potatoes. According to Schmidt, this remedy is successful in spastic as well as in atonic conditions. It is harmless and can be given to children just as well.

Among the general measures applied for constipation we mention at first exercise in the open air and hydrotherapeutic measures. As to exercise, we must again consider every case individually. It is not true that every person with a chronic constipation needs much exercise. On the contrary, there are patients for whom rest is far better. This is especially true in spastic conditions. For such cases some authors even prescribe rest in bed for some weeks. At any rate, too much exercise would do much harm in spastic patients. In atonic conditions a moderate amount of exercise, all sorts of sport, act favorably on bowel movement.

The hydrotherapeutic treatment consists in cold douches for atonic patients and hot applications for spastic constipation. In the latter a good effect is secured by rubber bags, filled with hot water, or so-called thermophors. The patient keeps it on the abdomen for several hours while in bed.

A further mechanical measure is massage. By this we wish to provoke and stimulate peristalsis. We understand that massage is contraindicated if there are spastic contractions of the bowels. We would cause here a still more intense spasm. In all cases of atonic constipation, however, massage, carried out in the right way and for a sufficiently long time, will prove a valuable means. The massage is best carried out at

night before going to sleep, daily at the same time for 10-15 minutes. We should never do it with force and cause pain. It is sufficient to give a simple effleurage along the colon and so forth. I see no reason why massage should not be performed in the early morning on a fasting stomach, as Einhorn recommends. Especially in weak persons it would be better to give the patient a rest after the massage in the evening. Automassage, as recommended by Rosenheim and others, is practically of no value, since most of the patients will not be painstaking enough as to carrying it out according to the prescription of the physician. Besides, the massage of a second person is of an invaluable suggestive power. Patients in massaging themselves would soon become discouraged, if the result does not become manifest after a short time. In addition to massage, however, we might recommend rational gymnastic exercise. All kinds of sport, if not too exerting, are very valuable auxiliaries to our therapy. It is of no great matter what kind of sport or exercise a patient has; we only emphasize that a regular daily exercise in a moderate dose will help to restore the poor peristalsis. The recommendation, however, of all sorts of gymnastic exercises in special institutes or special apparatus for these purposes is only a speculative business matter.

Vibratory massage with an electrical vibrator, the application of faradic or galvanic electricity may be tried, though this can not be regarded as an exclusive therapeutic agent.

All the above mentioned measures together may be able to secure regular bowel movements. In a great number of cases, however, we will be compelled to bring about movements by direct means, and here we can use enemas. Of course it has to be decided upon in every individual case how often an injection is required. We inject either pure warm water, or water with the addition of soap, soda or salt, and inject it under a not too high pressure. The quantity is ½-1 L. In some patients, by having these enemas made every day for 4-8 weeks, a complete recovery can be obtained. Some authors recommend to the patient to make the enema before going to bed and to retain the water till the next morning.

For spastic constipation the oil-enema, recommended by Kussmaul and Fleiner, is perhaps the most preferable application. ½ L. of warm olive oil are injected into the rectum by a soft rubber tube, while the patient is in bed and the patient is directed to stay in bed and to retain the oil until the next morning. This cure is not as successful as many authors claim. We can not regard it so optimistically. Besides this enema has the great disadvantage of soiling the bed clothes and the patients very soon refuse to continue the cure. On this account, Boas recommends to inject an emulsion of oil made by stirring two tablespoonfuls of olive oil, two tablespoonfuls of castor oil, ¼ pint of hot water and a point of a knife of soda, until we get a milky emulsion. This enema is indeed far cleaner and more agreeable. Still the results are likewise not always as satisfactory as many authors claim. In general, the treatment of consti-

pation is one of the most worrying and ungrateful tasks of the physicians. Almost every day the views on methods and remedies are changing. Things that have been praised enthusiastically to-day may be rejected and discredited to-morrow. So all the world believed that Metchnikoff had found the best means of all for the therapy of constipation, and all the world tried Yoghort milk, recommended by him. It was claimed that the lactic acid bacilli, contained abundantly in Yoghort, were able to combat the noxious proteolytic bacilli in the guts. Now in the first place, such things are only true in arguments, but not in nature; in the second place, some other authors have found that the destruction of the proteolytic bacilli in the gut may be harmful and even dangerous. Thus our enthusiasm is converted into disappointment.

The most scientific task of the physician will always be to study the physiology of his individual patient. For the physician there is no general physiology that is a collection of empirically selected laws, supposed to be a standard for the whole species. For him there is only the physiology of every individual patient. There are the rules of nature, which are different in each individual. This is what the physician has to observe and study, and the treatment consists simply in trying to accommodate these conditions under which the patient is living, and *vice versa,* to accommodate these conditions to the individually characterized functions of the patient. Since this is done so rarely, since most of the patients are treated schematically, according to some general statements, failures are experienced in so many cases.

The ulitmate refuge of securing a bowel movement, that is, the administration of a laxative or a purgative, is only allowed in cases in which it is necessary by all means to have the bowels moved. Otherwise we must avoid all such remedies.

The number of laxatives is very large. Rheum, senna, liquorice, castor oil, are the most common. A very rational prescription is given by Einhorn:

Aloes	1.0
Extr. belladonnæ	
Estr. nucis vomicon	0.3
Extr. et pulv. liquiritiæ	9

Pills No. XX. I pill 2 X daily.

Cascara sagrada is a very powerful laxative. We prescribe 15-25 drops of the fluid extract 2 X daily. Tamarinds and fig syrup are very popular laxatives. Of mineral waters the most effective is the bitter-water of Hunyadi-Janos.

205 Argyle Building.

THE USE OF THE BISMUTH VASELINE PASTE IN OSTEOMYELITIS. REPORT OF A CASE.

By T. R. Frazer, M. D., Commerce, Mo.

I was called February 20, 1908, to see a young man 18 years of age, who presented the following history and symptoms: Parents both living and healthy, except for rheumatism in both; this patient the youngest of eight children, all living and healthy. A few days before, he had been on a fox hunt during which he was exposed to cold, wet weather and fatigue.

I found him complaining of severe pain in the right ankle, the pain diffuse but most tenderness over the inner malleolus, some redness over the joint but little or no swelling; temp. 101; pulse 100; urine and saliva highly acid. I suspected osteomyelitis and enveloped the ankle in cotton saturated with alcohol, over which I applied a rubber bandage and administered salicylates and alkalies with anodynes.

On the next day, February 21, the symptoms were no better, pulse and temperature the same, but pain more severe; the urine contained albumin and granular casts; leucocyte count 10,000.

A hot sodium bicarbonate dressing was now applied and anodynes given hypodermically for the relief of the intense pain. For the next three days the symptoms remained the same, only the pain was more severe and required large doses of morphine hypodermically. A profuse epistaxis occurred about this time.

On February 25th I cut down on the bone and found pus exuding through a small opening, which I enlarged and evacuated a large quantity of pus, a smear of which showed streptococci. After the removal of the pus the constitutional symptoms improved though the pain and tenderness persisted, and on April 13 I operated under anesthesia and removed and curetted away a great quantity of dead bone, including the articular end of the tibia.

The cavity was packed with iodoform gauze daily though pain and tenderness persisted and the sinus continued to discharge pus and small particles of necrosed bone at intervals. Later iodoform emulsion was injected daily for several months, along with an occasional swabbing of the cavity with pure phenol and alcohol, though improvement, if any, was slight and about two drachms of pus continued to discharge daily. He was by this time able to get around well on crutches. In the meantime an incision was made about three inches above the first opening and a small quantity of pus was found which had forced its way through a small opening in the bone. A triangular portion of bone seemed to be separating from the shaft which was indicated by two deep grooves extending from each lateral margin of the cavity and joining at an angle

about four inches up the leg; this fragment of bone could be moved by slight pressure.

About this time my attention was called to the bismuth vaseline paste which I decided to try on this case and on February 28th, 1909, one year after the beginning of the trouble, I injected the paste of the following formula:

Bismuth subnitrate		30
White wax.		
Paraffin	āā	5
Petrolatum		60

The paste was injected in a molten state with an aspirating syringe through a long flexible nozzle. The hardening of the paste was accelerated by cold compresses over the part.

The patient was cautioned to report should any throbbing or symptoms of pus retention occur, but contrary to my expectations, he declared he felt less pain and soreness.



After ten days the paste was removed; it came away as a cast of the cavity; no discharge followed its removal. The paste was examined for pus cells but none were found in it, and the cavity presented a smooth, glistening appearance; another injection of paste was made which was allowed to remain until it was finally pushed out by the closing of the sinus.

Soon after this the patient threw away his crutch and began to put his weight on his ankle and four months after the first injection he accepted a position as clerk in a general store, which position he now holds. He dances and gets around as well as ever with just a slight limp in his walk. There is still a large depression over the malleolus.

Fourteen months have now elapsed since the first injection and as no return of the trouble has occurred I feel justified in reporting the success of the treatment in this case.

The accompanying cut shows the cavity at the time the last injection was made.

THE SELECTIVE MANAGEMENT OF CASES OF RETRODISPLACEMENT OF THE UTERUS.*

By H. S. Crossen, M. D., of St. Louis.

By the term "selective management" I mean the careful *selection* of the treatment with a view of securing that which is best adapted to the *exact conditions* present in the *individual* case. The time has long since passed when any particular operation or other form of treatment can be properly considered as THE only treatment for retrodisplacement as a whole. In each case the treatment to be chosen depends upon the particular conditons present in that case. A measure that in one case gives an excellent result, may in another case prove a complete failure, not from lack of skill in its execution, but from differing conditions to which it was not adapted. Medical literature is burdened with the descriptions of operations for retrodisplacement, many of which have been urged at one time or another as the cure-all for this affection. On the other hand, comparatively little attention has been given to the work of carefully *classifying* the cases according to the *particular conditions* present.

A distinct advance is made in the understanding of any disease when its various clinical forms and complications are clearly set forth. A still further advance is made when such classification finds its way into the general work of the profession. The accurate classification of cases of retrodisplacement of the uterus, with regard to the treatment to be employed, is a subject which I think should receive more general consideration and discussion than has hitherto been accorded it. For it is upon the accurate knowledge of these varied conditions and how to meet them, that effective treatment must rest.

The work of recent years has added to our knowledge a great deal of useful information concerning the pathological changes present in these cases and the effect of the various therapeutic measures employed. When this information is brought to bear upon the question of what is best to *do* in the case of each patient coming for treatment, then we are in a position to select that treatment which is most likely to restore the patient to health. There are many factors which have an important bearing on the selection of treatment. These factors, when given due weight, divide the cases into several *classes*—each class presenting certain *definite indications,* which point the way to effective treatment.

Starting with the usual division of the cases, according to the mobility of the uterus, into "freely movable," "partially movable" and "fixed," I I have found it useful in my work to further group the cases under sub-

*Read at the meeting of the Southwest Medical Association, San Antonio, Texas, 1909.

heads. As I am speaking from personal experience, and wish to make this useful in the experience of others, I have taken up the cases just as they are encountered in office work and at the operating table.

A patient comes for examination, and is found to have backward displacement of the uterus. An attempt is made to raise the corpus uteri by pressing upward with the examining fingers. If the body of the uterus can be easily raised, it is raised further until the fundus can be caught with the abdominal fingers and brought forward, thus bringing the uterus into proper position. If the corpus uteri can not be raised with the examining fingers, then a tenaculum forceps is slipped in beside the fingers and the cervix caught and brought forward. This brings the whole uterus toward the front of the pelvis and allows the fundus to swing clear of the sacral promontory, under which it is sometimes caught. Again, in bringing the uterus down, it is brought closer to the examining hand, which enables the fingers to pass further up its posterior surface and thus work to better advantage in attempting reposition. If the fundus uteri can now be raised, it is brought forward as before described. When the fundus uteri can be brought well forward, the uterus is said to be "freely movable," when it can be brought only part way forward it is classed as "partially movable," and when it can not be moved to any extent it is said to be "fixed."

UTERUS FREELY MOVABLE.

That class of cases in which the uterus is freely movable and can be brought well forward, presents many sub-classes, requiring different methods of treatment.

1. *Pessary.* Ordinarily when the uterus can be brought well forward without trouble, the adjustment of a suitable pessary is the preferable form of treatment.

2. *Knee-chest posture* in combination with pessary. If the uterus shows a tendency to go backward after replacement, add the knee-chest posture. It may be taken for one or two minutes, morning and evening. The best time usually is just after retiring at night and just before rising in the morning. This aids materially in keeping the uterus forward and also diminishes the dragging and pelvic distress, by taking off the downward pressure temporarily.

3. *Knee-chest posture alone.* There are certain cases in which it is preferable to use the knee-chest posture without the pessary.

(a) In cases where the pessary causes pain or so much irritation as to make the patient uncomfortable.

(b) In virgins, where local treatment or pessary is always to be avoided if possible. In some of these cases the knee-chest posture will bring the uterus fairly well forward and relieve the distress.

(c) In certain neurasthenic or hysterical individuals, it is advisable to avoid local treatment, so as to avoid fixing the patient's attention on the lesion of the genital tract. In such a case the knee-chest posture may

be given as part of a course of general exercise, and thus the desired effect may be secured without the patient suspecting any pelvic disease.

(d) In early pregnancy, where the pressure of the foreign body in the vagina might lead to miscarriage. In many of these cases the knee-chest posture is sufficient. When it does not prove satisfactory, then try the pessary, either alone or in conjunction with the knee-chest posture.

4. *No treatment.* There are certain cases at the extremes of the period of uterine activity, in which the displacement causes no disturbance and hence requires no treatment.

(a) A small virgin uterus is sometimes found displaced with no symptoms due to the displacement. These patients are usually examined for dysmenorrhœa and are often entirely relieved by dilatation and curettage without permanent correction of the retrodisplacement.

(b) In the case of small senile uterus, found in women long past the menopause, it seems to make little difference whether the atrophied



Fig. 1.—The puncturing tenaculum forceps. The instrument is strongly made and slender, and is designed to pass easily through the tissues of the abdominal wall, to penetrate the aponeurosis and peritoneum at any desired point, to grasp the round ligament firmly without bruising it, and to return through the wall, bringing the ligament along the new canal.

organ lies forward or backward. A careful investigation of these cases will usually show something else to account for the pelvic symptoms—frequently senile vaginitis and vulvitis (pruritis vulvæ).

5. *Perineorrhaphy.* If there is marked relaxation of the pelvic floor, permitting the cervix to sink downward and forward, that should be repaired. If the movable uterus stays forward well with a pessary, repair of the pelvic floor may be all the operative work necessary. But if any of the conditions mentioned in the next two paragraphs are present, additional operative treatment should be employed, and this can usually be carried out at the same time with the perineorrhaphy.

6. *Alexander's operation.* This shortening of the round ligaments without opening the peritoneal cavity, may be employed in cases where the uterus stays well forward with a pessary, but for some reason the pessary can not be worn or there is a desire to discard it. The field for

this operation is very limited. The uterus must be freely movable. It must stay forward easily with a pessary, thus excluding adhesions and other complications that would tend to draw it backward and make the operation a failure. There must be no appendiceal, tubal or ovarian condition requiring operative treatment or exploration. Most of the cases in which the pessary and knee-chest posture are not effective, require opening of the peritoneal cavity, because of the certainty or probability of intraperitoneal complications.

7. *Abdominal section.* The following cases of retrodisplacement with freely movable uterus, require abdominal section:

(a) Cases complicated by appendicitis. In these the appendix should be removed at the same time that the uterus is fastened forward.

(b) Cases complicated by ovarian or tubal disease requiring intraperitoneal investigation and treatment.

(c) Cases presenting uncertain conditions, in which the probability of some serious lesion (tumor, inflammation, adhesions) makes advisable intraperitoneal investigations along with the correction of the displacement.

(d) Cases in which the employment of pessary and knee-chest posture does not keep the uterus forward satisfactorily.

(e) Cases in which the pelvic distress persists in spite of the uterus being kept forward by non-operative measures. In such cases, before operation is resorted to, a most careful investigation should be made to determine certainly that the pelvic distress is really due to a pathological condition of the uterus or adnexa, and not to some general disease (nervous, nutritive, circulatory) or to simple local neuralgia.

UTERUS PARTIALLY MOVABLE.

This class includes the majority of cases of retrodisplacement. Following the displacement or coincident with it, there has been some inflammation, leaving as sequelæ adhesions and infiltration, which limit the mobility of the uterus. Here, also, are sub-classes requiring different methods of treatment.

1. *Bimanual stretching of adhesions or infiltrated tissues.* In these cases, the object of the bimanual manipulation is to raise the corpus uteri as far as it will go and then stretch the restraining tissue, so it can be raised still further. This *stretching* should be done *gently,* so as not to tear tissue or cause severe pain. Each movement should be made with the definite object of stretching some resisting tissue, and practically all the movements are made in the direction of reposition of the uterus, i. e., either raising the fundus and bringing it forward or pushing the cervix backward. In many cases of long standing backward displacement, the cervix is held forward by shortening and infiltration of the tissues in front of it. This shortening must be overcome by carrying the cervix far back in the pelvis and thus lengthening the shortened tissues.

2. *Knee-chest posture and pessaries.* In cases where the uterus can not be brought entirely forward, the patient should take the knee-chest posture twice daily, in order to assist in holding what is gained by the treatments. If desired, a vaginal tamponade may be used after each treatment. When the fundus uteri has been raised far enough to permit the cervix being pushed well back in the pelvis, it is sometimes advantageous to introduce a suitable pessary of the Hodge or Smith or Thomas

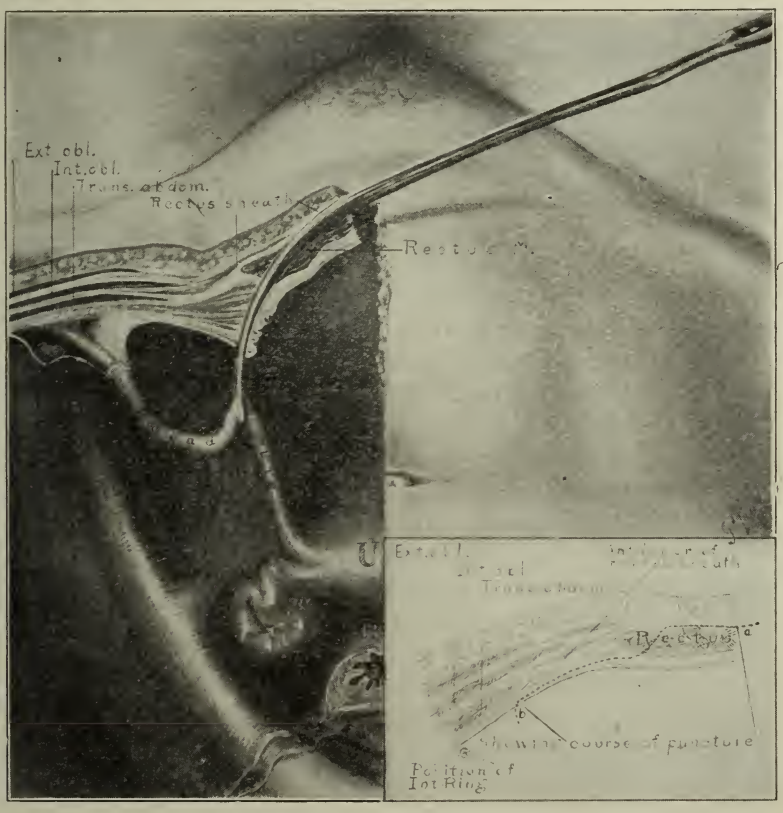


Fig. 2.—The puncturing tenaculum forceps introduced through the wall, as described, and grasping the round ligament. In introducing the forceps through the wall the point is carried along the course indicated by the dotted line *a* to *b* in the small sketch in the corner. Notice that the puncture through the strong aponeurotic wall is made near the outer margin of the rectus muscle, while the puncture through the peritoneum is made at *b*, which is near the internal inguinal ring. The distance from *b* to the internal ring is so short (about one inch) that no puckering suture is necessary. This point is further explained in Figure 3.

type, even though the fundus has not been brought entirely forward. The pessary thus placed holds the cervix well back in the pelvis, and thus assists in keeping the fundus raised and in bringing it forward in the knee-chest posture. When the uterus can not be replaced, considerable temporary relief from the dragging may be given in some cases by using the inflated ring pessary. This form has no particular action in main-

taining the uterus in a forward position, but simply lifts up the whole uterus a short distance, and thus relieves some of the dragging. The effective use of pessaries, knee-chest posture and other non-operative measures, I have taken up in detail in a recent article.*

3. *Abdominal section.* The fact that the mobility of the uterus is limited, is evidence in itself of some pathological condition in the pelvis, in addition to the uterine displacement. A large proportion of these cases require intraperitoneal operation, either at once or after a trial of palliative measures. Before subjecting the patient to operation, care should be taken to determine that the limitation of mobility is not due simply to the sequelæ of an old cellulitis about the uterus. This infiltration of connective tissue, whether it fixes the uterus little or much, can not be corrected satisfactorily by intraperitoneal operation (abdominal section) and should not be taken as an indication for such operation.

UTERUS FIXED.

Even in the cases of firmly fixed uterus, there are sub-classes requiring different methods of treatment.

1. *No Treatment.* Occasionally a displaced adherent uterus gives rise to no symptoms. In the child-bearing period, when the uterus is large, heavy and functionating, its displacement practically always causes troublesome symptoms as long as the uterus is at all movable. On the other hand, if the uterus is firmly fixed, so firmly as to prevent dragging, it may give no trouble. An occasional instance of this kind has come under my observation, and such cases are very instructive, for they indicate that the symptoms in displacement are due not to the abnormal location of the corpus uteri but to the dragging on stretched and tender structures. This same fact is of much importance also in operative treatment and indicates the wisdom of choosing those forms of operation which not only bring the uterus forward but at the same time elevate it, and thus overcome the dragging and partial prolapse which is usually present in these cases.

2. *Stretching and knee-chest posture.* In cases not suitable for operation the persistent employment of these measures may secure considerable relief. Bimanual stretching of the tissues, with the other non-operative measures, are indicated especially in those cases of fixation due to sequelæ of *pelvic cellulitis* without tubal involvement. These are the cases in which most effect can be secured from the stretching of the involved tissues. They are the cases, also, which can not be satisfactorily handled by intraperitoneal operation, for the lesion is not in the peritoneal cavity but in the connective tissue. Again, the patients, with intra-peritoneal adhesions, who are not in physical condition for operation, or who refuse operation, may in some cases be given considerable relief by these

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[*Practical Points in the Office Treatment of Retrodisplacement of the Uterus, by H. S. Crossen, M. D., *Interstate Medical Journal*, January, 1910.]

measures faithfully employed. If there is much inflammation, treatment for that is of course also given.

3. *Abdominal section.* In most cases, the fixation is due to adnexal inflammation with intraperitoneal exudate and adhesions. If of long standing, operation is required for its relief. If the inflammation is of recent origin, palliative measures are to be given a trial, with operation later if necessary. In some cases the fixation of the uterus is due to a tumor requiring removal.

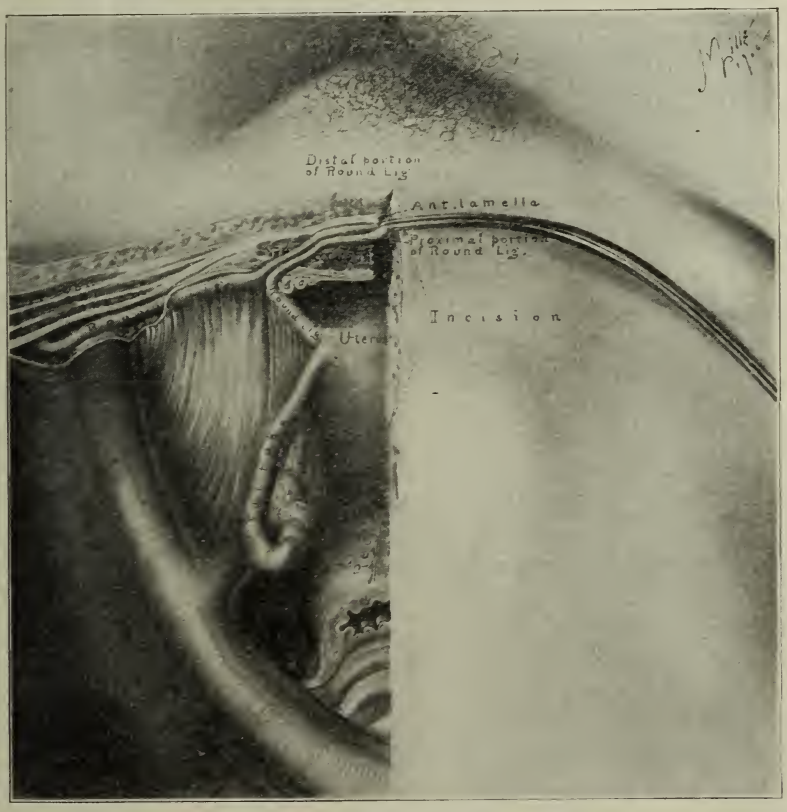


Fig. 3.—The left round ligament drawn into place. Notice that the direction of pull on the uterus is changed from lateral to anterior. At the same time there is no large opening between the distal portion of the round ligament and the anterior abdominal wall requiring a suture, as in the regular Gilliam-Ferguson operation. The distance from the peritoneal exit of the new ligament to the lateral edge of the peritoneal cavity at this level is so small (represented in the corner sketch in Figure 2 by the distance from *b* to the internal inguinal ring) that it is closed by moderate traction on the distal portion of the round ligament loop appearing in the wound. If it is desired to bring the uterus farther forward the proximal portion of the ligament is pulled on. If the peritoneum becomes tense before there is sufficient tension on the round ligament to bring the uterus well forward, the peritoneum over the ligament loop may be incised and the ligament itself grasped and drawn out as desired.

CHOICE OF INTRAPERITONEAL TREATMENT.

When it has been necessary to open the abdomen, and the adnexal lesions, if any, have been taken care of, then comes the question "What

method should be employed to hold the uterus in anterior position?" The answer to this question varies with the conditions present in the pelvis. It is an important question and one which confronts the gynecologist frequently in his daily work. In the first place, after the abdomen has been opened and the adnexal trouble corrected, the selection of treatment for the displacement hinges largely on the possibility of future pregnancy. So the cases are considered in two classes—the first class including those in which future pregnancy is possible and the second class including those in which pregnancy is not possible.

A. FUTURE PREGNANCY POSSIBLE. When future pregnancy is possible, no method of fastening forward the uterus is permissible which could interfere seriously with pregnancy or parturition. This excludes at once ventro-fixation and ventro-suspension.

Ventro-suspension has been employed many times in the child-bearing period and often with good results. But a large number of serious results of various kinds have been reported from subsequent pregnancies, and, as long ago as 1905, Lynch collected 21 cases in which Cæsarian section was necessary because of the effect of this operation. It is the *uncertainty* as to the amount of suspension or fixation which will result, that makes the operation dangerous in the child-bearing period. The object of the operation is to form a short suspension band, strong enough to hold the uterus forward and upward but that will not interfere with the development of the uterus in pregnancy. But reported cases show that when the fundus uteri is once sutured to the abdominal wall there is no certainty as to just how much suspension or fixation will take place. From the ideal result the uncertainty extends in both directions, i. e. there may result a firm fixation to the abdominal wall causing a disastrous result in a subsequent pregnancy, or, on the other hand, the suspension band may become so slight and attenuated that it fails to hold the fundus forward, and there is recurrence of the old displacement. Again, about such long bands there is danger of the intestine becoming entangled, forming acute intestinal obstruction. These bad results have ocurred often enough to make them valid objections, and accumulated experience has demonstrated upnquestionably that this operation should not be employed when future pregnancy is to be reckoned with.

As to what method *should* be employed when pregnancy is possible, that depends upon the particular conditions present in the pelvis as determined by examination after the abdomen is open. I have found it advisable in my work to divide these cases into four classes, as follows:

1. Cases in which the round ligaments and adjacent tissues are freely movable.

2. Cases in which the round ligaments and adjacent tissues are fixed by inflammatory infiltration or other abnormal condition.

3. Cases in which the cervix lies so far forward that the axis of the uterus still lacks the normal anterior direction even when the fundus is brought into the front part of the pelvis.

4. Cases in which there is so much inflammatory infiltration and contraction of the posterior part of the broad ligaments, that the uterus can not be brought entirely forward, without danger of serious injury to important structures.

1. *When the round ligaments are freely movable.* In these cases the broad ligaments, or at least the anterior portions, with the round ligaments, are soft and yielding and can be stretched as desired. The uterus

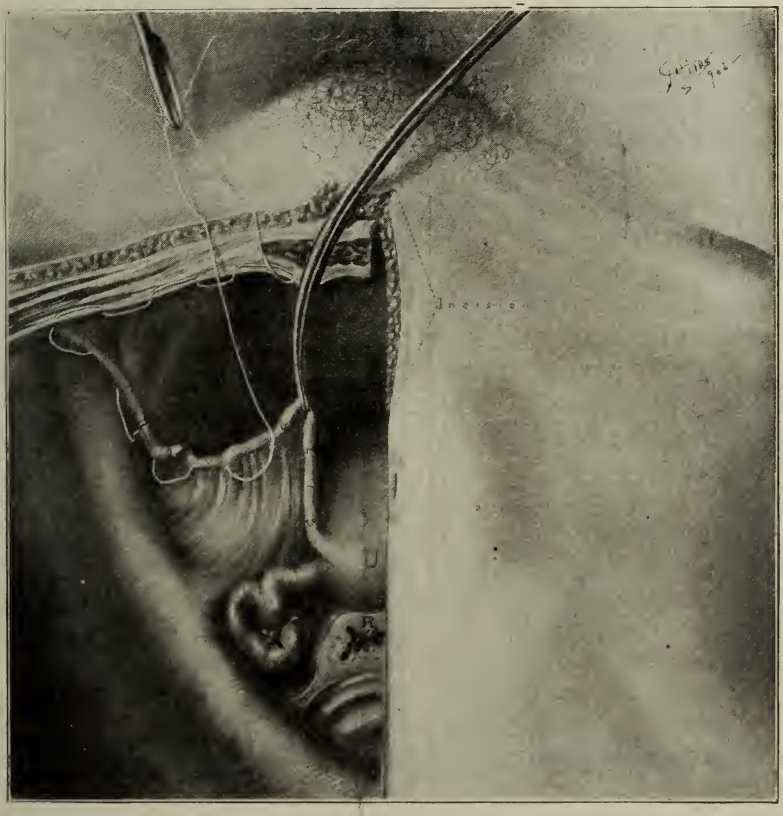


Fig. 4.—The use of the puncturing tenaculum forceps in the regular Gilliam-Ferguson operation. The puncture is made directly through the upper sheath, the rectus muscle, the lower sheath and the peritoneum, and the ligament grasped and brought out—the puckering suture having been previously passed. After the ligament is brought out as desired, the puckering suture is tied, thus closing the opening at the side between the distal portion of the round ligament and the anterior abdominal wall.

is freely movable after the adhesions have been broken up, and if it is necessary to extirpate a tube, the work has been carried out in such a way as not to interfere with the pliability of the tissues in the neighborhood of the round ligaments.

In such a case the round ligaments should be utilized for holding the uterus forward. These ligaments are definite structures, already formed of tissues intended for support, and can be depended upon as to approxi-

mate size and sustaining power in after years. Hence they are preferable to peritoneal adhesions, the size and strength of which are necessarily problematical. Furthermore, the round ligaments are embryologically part of the uterus and, with the uterus, undergo hypertrophy and softening during pregnancy, and tend to return to their former condition by involution during the puerperium.

In utilizing the round ligaments for holding forward the uterus, there are two principles which should be kept in mind, as follows:

a. *The strong part of the ligament should be utilized for holding the uterus.* The strong part of the ligament is that portion near the uterus. The outer portion of the ligament is the weak part, and in these cases of displacement it is further thinned out and weakened. This fact was clearly demonstrated in the days when the Alexander operation was more frequently used. The distal portion of the ligament was often so attenuated as to be hardly recognizable, and in all cases we had to handle it very carefully and pull very gently, until the thick, strong, proximal portion next to the uterus, came into view.

Practically all the intra-abdominal *folding* operations, utilize only the weak part of the ligament. Of course, where there is not much backward pull it does very well, but where there is a decided tendency backward, a return of the displacement is likely to take place after some months or some years. This occurred so often with the old folding operations that other methods were devised with the idea of overcoming it. This is one reason for the multiplicity of operations. The more recent intro-abdominal folding operations depend largely on the peritoneum and peritoneal adhesions, which I maintain is not advisable where future pregnancy is to be reckoned with, because of the possibility of firm fixation and consequent interference with pregnancy, and also because of the improbability of the overstretched retaining tissue becoming sufficiently shortened again by involution during the puerperium.

b. *The direction of pull of the ligament should be changed from a lateral to a forward direction,* in order to effectually meet the strong backward tendency in these troublesome cases in which the abdomen must be opened. The normal exit of the round ligament is placed too far laterally to hold the uterus well forward when there is much tendency to go back after replacement. This has been noted repeatedly by operators, and, in fact, it has long been established, that the function of the round ligaments is to exert forward traction on the uterus, *not* in its normal position, but *only* when it is in marked backward displacement.

This element of failure has caused disappointment in many cases, following the Alexander operation and its modifications. I am not condemning the Alexander operation. It is an excellent operation in certain well selected cases. I have used it with good results and have watched it through pregnancy and labor and afterward with the utmost satisfaction. But I have found that it is not applicable in certain cases of apparently freely movable retrodisplacement; namely, in those cases in which there

is a persistent backward pull, as evidenced by the tendency of the uterus to go backward as soon as the replacing fingers were removed. In such cases it is likely to result in partial failure, the uterus being found in moderate backward displacement after a time. Likewise, a shortening of the ligaments after abdominal section *by drawing them through the internal inguinal rings* may result in the same partial failure if there is much tendency of the uterus to go backward.

The two principles (utilization of the strong portion of the ligaments and change of pull from a lateral to a forward direction) are fulfilled by the Gilliam operation and its modifications. The strong portion of each round ligament is brought out through the musculo-aponeurotic wall of the abdomen at a point nearer the median line, thus the pull of the ligament is changed from a lateral to a forward direction. The sustaining part of the ligament has been transplanted to a new place in the abdominal wall, hence the term "transplantation of the round ligaments" by which this form of operation is frequently designated. To effect the transplantation, Gilliam passed a temporary ligature about the ligament 1½ inches from the uterus, then caught the ligature in a forceps passed through the rectus muscle, and drew the ligament out through the muscle. Ferguson added a puckering suture at each side to close the space between the distal portion of the ligament (not drawn into the new exit) and the abdominal wall, there being danger of an intestinal coil slipping through this space and being caught.

Preferable method. The most satisfactory method that I have found for transplantation of the round ligaments, is a modification of the Gilliam operation which I devised some three years ago and described a year later. The article appeared in the JOURNAL of the American Medical Association, and I have received letters from many sections of the country in regard to it. From that article* the following description and illustrations are taken, the technique being given in four steps:

Step 1. The special work for which the abdominal cavity was opened having been completed, the left round ligament is grasped with an ordinary tenaculum-forceps about 1½ inches from the uterus. The right ligament is caught in a similar manner with another forceps, and then any retractors that are in the way are removed from the abdominal wall. The grasping of the ligaments of each side with the tenaculum-forceps, facilitates the subsequent manipulation of the ligaments, after the removal of the retractors which expose the pelvic cavity.

Step 2. The point of the puncturing tenaculum forceps (Fig. 1) is entered in the left side of the wound, just beneath the upper sheath of the rectus muscle and about one inch above the pubic bone. It is passed outward just beneath the sheath for an inch and then the point is directed

*The Preferable Method of Anterior Fixation of the Uterus When the Abdomen is Open. The President's Address, St. Louis Obstetrical and Gynecological Society. H. S. Crossen, M. D., Journal American Med. Assoc., Vol. XLVIII., p. 1488.

downward and made to puncture the rectus muscle and posterior sheath, but not the peritoneum. Guided by the fingers in the abdomen, it is then passed outward between the peritoneum and the aponeurosis to a point about one inch from the internal inguinal ring, where it is made to penetrate the peritoneum. The handle of the instrument is then raised so as to direct the point toward the round ligament and it is made to grasp the ligament about 1½ inches from the uterus (Fig. 2).

In the class of cases under consideration, the ligament and peritoneum are usually so stretched and lax that they are easily drawn into the new canal as a small cord. If the ligament is unusually thick, or if the peritoneum is so thickened that is probably will not pass easily into the forceps canal, a window may be snipped in the peritoneum in front of the ligament and the ligament alone grasped and brought into the canal.

Step 3. The forceps is then withdrawn, bringing the ligament with it into the forceps track and out at the abdominal wound (Fig. 3). The loop of ligament brought out is now caught and held by an ordinary tenaculum forceps, while the right ligament is brought out in a similar manner. After the ligaments are brought into position, the tension is adjusted. It may be necessary to bring out a little more of the proximal portion or a little more of the distal portion, the former to bring the fundus well forward and the latter to close effectively any space that may exist between the distal portion and the parietal peritoneum. By paying attention to this latter point the peritoneal puncture may be made a considerable distance from the internal inguinal ring without leaving any opening through which an intestinal coil might slip. The parietal peritoneum, being freely movable on account of the loose sub-peritoneal tissue, is drawn inward and puckered when the proximal portion of the ligament is drawn on to bring the uterus forward. This brings the peritoneal exit almost opposite the aponeurotic exit of the new ligament, near the outer margin of the rectus muscle. The direction of the new ligament, therefore, is forward.

Step 4. The ligaments are then fastened in their new position. If long enough, the loops are overlapped in the median line and fastened to each other and to the upper sheath of the rectus. If not long enough to reach to the median line they are fastened securely in the forceps track by catgut sutures passed through the upper sheath and the ligaments beneath. The abdominal incision is then closed in the usual way.

By the above method, the ligaments may be transplanted into the abdominal wall very quickly, giving a strong reliable forward and upward traction on the uterus and adnexa, without any free bands or dangerous adventitious openings. The advantages of this technique over that usually employed, is that it *simplifies* and *expediates* the work, by doing away with the temporary ligation of the ligament and also with the lateral puckering suture.

The puncturing tenaculum-forceps here mentioned, I designed in 1905, and have been using with much satisfaction since. It is strong and

slender, and is designed to pass easily through the tissues of the abdominal wall, to penetrate the aponeurosis and peritoneum at any desired point, to grasp the round ligament firmly without bruising it, and to return through the wall, bringing the ligament along the new canal.

2. *When the round ligaments are fixed.* In this class come those cases of retrodisplacement in which there is fixation of the round ligament and adjacent tissues, so that it is not practicable to draw into the wall either the round ligament and adjacent peritoneum or even the round ligament alone.

Such fixation may be due to inflammatory infiltration, associated with salpingitis, peritonitis or cellulitis, or it may be due to the way the ligatures are placed in removing a damaged tube or ovary. Unless particular care is exercised in excising the damaged adnexa, the tissues are likely to be fixed by the ligatures—in fact, when mass ligatures are passed and tied before the uterus is brought well forward, the organ may be so fixed by the ligatures that it can not afterward be brought forward satisfactorily. To prevent this it is well to avoid mass ligatures, and to hold the uterus well forward while placing any ligatures that may interfere with its mobility.

In these cases, the round ligaments are so fixed by inflammatory infiltration or other abnormal condition that the transplantation operation above described can not be satisfactorily carried out. In these cases, the regular Gilliam-Ferguson operation is employed. In the execution of this operation, the puncturing tenaculum-forceps, previously mentioned, is very convenient for puncturing the rectus muscle and catching the ligament and bringing it out through the muscle. The method of its use in this connection is shown in Feg. 4.

3. *When the cervix is too far forward.* In the cases of this class, the cervix comes so far forward that the uterus does not have the proper forward inclination even when the fundus is brought well into the front part of the pelvis. The raising of the fundus and the adnexa relieves the symptoms for a time, but the position of the uterus with the body still directed straight up or slightly backward is such that the intestines run in front of it and sooner or later it is forced backward again into troublesome retrodisplacement.

The cause of the cervix being so far forward, is the lax condition of the supporting structures, particularly the sacro-uterine ligaments. Occasionally, the cervix is held forward by shortening of the tissues anterior to the cervix by inflammation or other cause. When this is the case, the contraction should be overcome by stretching or an incision of the contracted tissues before an attempt is made to fasten the uterus forward. Generally, however, the tissues are lax all around the cervix.

In these cases, in addition to fastening the fundus forward, while the abdomen is open the cervix should be drawn backward and raised by shortening the sacrouterine ligaments. With good exposure of the pelvic cavity and the intestines packed out of the way, there is not much difficulty

in accurately placing a suture which, when tied, will effectually pucker the ligament and lift the cervix upward and backward. The suture should be passed rather superficially so as to avoid injuring vessels and other structures near the pelvic wall, and the surfaces to be brought together should be roughened so that agglutination will take place and adhesions follow. Both sutures could be placed before either are tied, for when the cervix is drawn back close to the rectum it is difficult to place a suture satisfactorily in this region. In most of these cases of relaxed sacrouterine ligaments, there has been marked laceration of the pelvic floor, the repair of which is indicated as a part of the operative work.

4. *When there is contraction of the posterior part of the broad ligament.* There are certain cases of retrodisplacement with extensive chronic inflammation in which, after removing a disorganized tube and breaking up the adhesions posterior to the uterus and broad ligaments, there is still so much inflammatory infiltration limiting the mobility of the uterus that it can not be brought well forward, without danger of injury to important structures or such resulting tension as will cause distress. The question is: What is the best procedure in such a case? Shall we persist in trying to loosen the uterus so that it will come far forward, at a risk of injury to the large vessels along the pelvic brim which are firmly imbedded in the infiltrated tissue, or shall we fasten the fundus forward to the abdominal wall under strong tension, or shall we leave it in its perpendicular or slightly backward position?

I think that, as a rule, the last mentioned plan is the best in these exceptional cases. The principal symptoms are due to the inflammatory mass, which has been removed. Usually the uterus can easily be brought forward to a position midway between the normal position and decided retrodisplacement, and this position, when maintained, practically never in itself causes troublesome symptoms.

Whether the uterus will stay in this elevated position or return to its former one, depends on whether the tissues are pliable and the uterus movable. If they are, the uterus will not stay in this midposition; but when the tissues are fixed by infiltration, this, with the scar tissue which results from the removal of the diseased tube or tubes, so fixes the uterus that it is likely to be held in that position indefinitely.

To favor the maintenance of the uterus in that position, care should be taken, before closing the abdomen, to see that the intestines extend into the posterior part of the pelvis and that the omentum comes down over them and is, when long enough, tucked in back of the uterus. The intestines and omentum back of the uterus assist in holding the latter forward during the healing process, and also tend to prevent adhesions which extend directly from the uterus to the posterior pelvic wall, the contraction of which would draw the uterus farther back.

In certain of these cases, some of the structures alongside the uterus, on one or both sides, may be fastened forward, thus helping to maintain the uterus part way forward both during the healing process and after-

ward. In one especially troublesome case of this kind, I was able to secure a satisfactory result by suturing the upper anterior margin of the broad ligament to the anterior abdominal wall for a considerable distance inward from the pelvic margin on each side.

B. PREGNANCY NOT POSSIBLE. Future pregnancy need not be taken into consideration in the following three classes of cases:

1. Cases in which both tubes have been completely removed.
2. Cases in which both ovaries have been completely removed.
3. Cases in which the patient is past the menopause.

Pregnancy has been reported under some of the conditions mentioned in these three classes, but such cases are so rare as to be mere curiosities, and need not be considered in planning the treatment. Ventro-fixation of the uterus or hysterectomy is usually employed under these circumstances.

a. *Ventro-fixation.* As no provision need be made for future pregnancy, the uterus may be fastened forward either by ventro-fixation or by transplantation of the round ligaments. As the mobility of the round ligaments has, in most of these cases, been markedly interfered with by the extensive removal of adnexa and broad ligament tissue, ventro-fixation remains the operation of choice in this small class of cases. The fixation of the fundus uteri to the anterior abdominal wall may be secured by passing the sutures about as has been done for ventor-suspension *except more deeply,* and then scarifying the peritoneal surfaces so as to give a broad area of adhesion. Another method is to pull aside the peritoneum some and bring the fundus uteri into direct contact with the connective tissue of the abdominal wall in the median line. This gives a firmer union. By either method, the object is to secure *fixation,* (not suspension) of the uterus to the abdominal wall—a fixation that will keep the fundus uteri well forward under all circumstances.

b. *Hysterectomy.* In the classes of cases under consideration, if the displaced uterus is chronically inflamed or otherwise diseased so that it is likely to give trouble even though fastened forward, it had best be removed. As a rule, this is preferably accomplished by supravaginal hysterectomy, but if the cervix is much affected, total hysterectomy is the operation of choice.

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EDITORIAL

THE HANNIBAL SESSION.

The annual meeting of the State Association at Hannibal on May 3rd to 5th, was one of the most successful and perfectly planned meetings in the history of the organization. Almost 300 members attended, and on every hand none but expressions of satisfaction and pleasure over the perfection of the arrangements and the attractiveness of the program were heard. The physicans of Hannibal were exceedngly hospitable and very industrious in their efforts to have every member comfortably located and assured of a pleasant visit.

The House of Delegates finished its business by noon on the morning of the first day, owing to the plan of printing the reports of the committees in advance; and it was possible, therefore, to read papers in the afternoon of this day in the different sections, which all members were at liberty to attend and take part in the discussions. On Wednesday morning a general session was held, when papers of a general character were read and discussed; again in the evening of the same day another session of the general society was held and additional papers having an interest for all members were read and discussed. On Tuesday evening the president, Dr. Tinsley Brown, delivered his address. This was followed by a scholarly paper by the invited guest of the Associaton, Past

Assistant Surgeon B. S. Warren of the U. S. P. H. & M. H. Service. The oration on Medicine by Dr. N. P. Wood of Independence, and that on Surgery by Dr. Francis Reder of St. Louis, followed. Addresses of welcome were delivered by Dr. W. H. Hoy of Hannibal, and Mr. S. J. Roy, secretary of the Commercial Club. This meeting took place in the Opera House when it was found that the hall in the Knights of Father Mathew building would not be adequate to seat all the visitors.

The registration in the Surgical and Medical sections was very large, but the section on Eye, Ear, Nose and Throat was a disappointment; only two papers were read in the latter section and the attendance was not at all what had been expected. With this exception the program was as near ideal as it is possible to prepare. The failure of the Eye Section in spite of the diligence of the officers of that section, who prepared a program of unusual interest and high quality, would seem to be that there is little demand for any further sectional divison of the scientific program.

The reports of all the committees showed an encouraging growth of interest by the general membership in the work of the organization, the report of the Council on Medical Education being especially interesting and enlightening. The committee on Medical Defense reported that a number of suits for malpractice had been defended, a number of them successfully, and all the others continued. Only $100 was expended by the committee, so that the fund still has $900 to its credit. An additional $1000 was set aside for the use of the defense committee, bringing the total amount of this fund at present to $1900.

The pleasure of the visit to Hannibal was not confined to the enjoyment of the work of the Associaton, for everybody took occasion to wander about the town and visit the places made famous by our great and lately departed humorist and philosopher, Mark Twain. His home still stands and the "old town" seemed to breathe the mischievous spirit of Tom Sawyer and Huck Finn as we drove through the narrow streets. Certainly every member who attended the Hannibal meeting will long remember its beautiful surroundings and the successful meeting held there.

ST. LOUIS SESSION OF THE AMERICAN ASSOCIATION.

The coming meeting of the American Medical Association promises to equal if not exceed in attendance any previous session. The hotel reservations are very large, almost all the principal hotels being filled to their capacity, and yet the reservations continue to pour in. The hotels committee is taking good care of everybody and all guests will be nicely located.

The St. Louis Medical Society is arranging for the entertainment of the members in a manner that will, it is hoped, leave nothing but pleasant memories of the session. The interest in the work of this great body has been growing rapidly in our state ever since the reorganization, and the high objects for which it stands commend it to all right-thinking physicians. The knowledge gained at the annual meetings of the American Medical Association is invaluable to progressive physicians.

One of the attractive features of the meeting will be the post-graduate instruction that will be given by the medical departments of the St. Louis University and the Washington University during the week before and the week following the session. Announcement of these clinics has already been made and a large attendance is expected; there is no charge for admission to the clinics.

The general headquarters of the committee of arrangements are in room 609 Metropolitan building, Grand avenue and Olive street. All visiting physicians are cordially invited to make use of this office in every way that will be helpful to them.

The opening exercises of the meeting will take place at he Odeon Theatre, Grand and Finney avenues, at ten o'clock on June 7th. At two o'clock in the afternoon the sections will begin their meetings and hold session morning and afternoon thereafter at the following places:

General Session: Odeon Theatre, Grand and Finney avenues.

House of Delegates: St. Louis Medical Society, 3523 Pine street.

Scientific and Commercial Exhibits, Postoffice, Registration Office: Coliseum, Washington and Jefferson.

President's Reception: First Regiment Armory, Grand and Manchester avenues.

Medicine: Third Baptist Church, Grand and Washington avenues.

Surgery: Odeon Theatre, Grand and Finney avenues.

Obstetrics and Diseases of Women: Y. M. C. A. Building—Association Hall, Grand and Franklin avenues.

Laryngology and Otology: Sodality Hall, Grand avenue, between Pine and Laclede.

Ophthalmology: Aschenbroedel Hall, 3535 Pine street.

Diseases of Children: Grand Avenue Presbyterian Church, Sunday School Room, Grand and Washington avenues.

Pharmacology and Therapeutics: Delmar Avenue Congregational Church, Delmar, west of Grand avenue.

Stomatology: Y. M. C. A. Building—Small Hall, Grand and Franklin avenues.

Nervous and Mental Diseases: St. Louis University Library, Grand avenue, head of East Pine.

DERMATOLOGY: Odeon Bldg.—Recital Hall, Grand and Finney avenues.
PREVENTIVE MEDICINE AND PUBLIC HEALTH: Knights of Columbus Bldg., 3549 Olive street.
PATHOLOGY AND PHYSIOLOGY: Y. M. C. A. Building—Lecture Hall, Grand and Franklin.

FOR A DEPARTMENT OF HEALTH.

The bill of Senator Robt. L. Owen of Oklahoma, establishing a Department of Public Health, should commend itself to every physician in the United States, and especially to the physicians of this State. Every member of the State Medical Association should make an effort to bring influence upon the Senators and Congressmen from this State, favorable to the passage of the bill; and especially should the members of the Auxiliary Committee on Public Policy and Legislation interest themselves actively to this end. It is the duty of each auxiliary member to engage the attention of influential persons in his community and urge them to lend their influence in securing the establishment of a Department of Health at Washington.

It would greatly facilitate the accomplishment of this object if our members would endeavor to interest local civic bodies, commercial clubs, and all organizations having for their object the improvement of the material, moral and physical welfare of the people.

After having written the Senators and Congressmen, the auxiliary committeemen are urged to inform the Secretary of the Bureau of Legislation, American Medical Association, 535 Dearborn avenue, Chicago, the steps he has taken, and forward copies of any letters written and resolutions adopted, and all other information that might be helpful in the effort to create a Department of Public Health.

For the information of the members we print the bill in full:

A BILL

Establishing a Department of Public Health, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there is hereby established a Department of Public Health under the supervision of the Secretary of Public Health, who shall be appointed by the President a Cabinet officer, by and with the consent of the Senate, at a salary of twelve thousand dollars per annum, with like tenure of office of other Cabinet officers.

SEC. 2. That all departments and bureaus belonging to any department, excepting the Department of War and the Department of the Navy, affecting the medical, surgical, biological, or sanitary service, or any questions relative thereto, shall be combined in one department, to be known as the Department of Public Health, particularly including therein the Bureau fo Public Health and Marine-Hospital Service, the medical officers of the Revenue-Cutter Service,

the medical referee, the assistant medical referee, the surgeons and examiners of the Pension Office; all physicians and medical officers in the service of the Indian Bureau, or the Department of the Interior, at old soldiers' homes, at the Government Hospital for the Insane, and the Freedman's Hospital and other hospitals of the United States; the Bureau of Entomology, the Bureau of Chemistry and of Animal Industry of the Department of Agriculture; the hospitals of the Immigration Bureau of the Department of Commerce and Labor; the emergency relief in the Government Printing Office, and every other agency of the United States for the protection of the health of the people of the United States, or of animal life, be, and are hereby transferred to the Department of Public Health, which shall hereafter exercise exclusive jurisdiction and supervision thereof.

SEC. 3. That the official records, papers, furniture, fixtures, and all matters, all property of any kind or description pertaining to the business of any such bureau, office, department, or branch of the public service is hereby transferred to the Department of Public Health.

SEC 4. That the Secretary of Public Health shall have supervision over the Department of Public Health, and shall be assisted by an Assistant Secretary of Public Health, to be appointed by the President, by and with the advice and consent of the Senate, at a salary of six thousand dollars a year, with such duties as shall be prescribed by the Secretary not inconsistent with law.

SEC. 5. That the Secretary of Public Health shall be authorized to appoint such subordinates as may be found necessary. There shall be a chief clerk appointed at a salary not to exceed three thousand dollars a year, and such other clerks as may from time to time be authorized by Congress.

SEC. 6. That the officers and employees of the public service transferred to the Department of Public Health shall, subject to further action by Congress, receive the salaries and allowances now provided by law.

SEC. 7. That it shall be the duty and province of such Department of Public Health to supervise all matters within the control of the Federal Government relating to the public health and to diseases of animal life.

SEC. 8. That it shall gather data concerning such matters, impose and enforce quarantine regulations; establish chemical, biological, and other standards necessary to the efficient administration of said department, and give due publicity to the same.

SEC. 9. That the Secretary of Public Health shall establish a Bureau of Biology, a Bureau of Chemistry, a Bureau of Veterinary Service, a Bureau of Sanitary Engineering, reporting such proposed organizations to Congress for suitable legislation relative thereto.

SEC. 10. That all unexpended appropriations and appropriations made for the ensuing year shall be available on and after July first, nineteen hundred and ten, for the Department of Public Health, where such appropriations have been made to be used by any branch of the public service transferred by this Act to the Department of Public Health. It shall be the duty of the Secretary of Public Health to provide, on proper requisition, any medical, sanitary, or other service needed of his department required in another department of the Government.

SEC. 11. That any other department requiring medical, surgical, sanitary, or other similar service shall apply to the Secretary of Public Health therefor wherever it is practicable.

SEC. 12. That all officers or employees of the Government transferred by this Act to the Department of Public Health will continue to discharge their present duties under the present organization until July first, nineteen hundred and ten, and after that time until otherwise directed by the Secretary of Public Health or under the operation of law.

SEC. 13. That all laws or parts of laws in conflict with this Act are hereby repealed.

ATTACK ON THE BILL FOR A DEPARTMENT OF PUBLIC HEALTH.

The introduction of the bill by Senator Owen to establish a department of public health, which we publish on another page, has served as an excuse for a new attack upon the American Medical Association by an organization calling itself "The National League for Medical Freedom." That this s a mere attempt to arouse dissensions among the members of the Associations is quite apparent. The attack is of course prompted solely by the organized interests whose business is interfered with by the campaign of the American and the state medical associations to educate the people in methods of protecting themselves from disease and prolong life, since among the things to be avoided in pursuing this course not the least are patent medicines and fakers of all kinds and descriptions. We quote from an editorial in the current issue of the *Journal* of the Americal Medical Association, which throws much light upon the personnel of the "League" and its objects in attacking the bill:

> Within the past few days the newspapers of the chief cities of the country have carried large advertisements headed: "Do You Want the 'Doctors' Trust' to be able to Force its Opinions on You?" These advertisements paint in vivid colors—"yellow" predominating—the disaster and general destruction that will follow the formation of a federal department of health. They emanate from, or to be more correct, are signed by, an organization calling itself the "National League for Medical Freedom." In addition to the regular display advertisements, the press agent is supplying matter for the reading pages, and there is every evidence that the propaganda is not lacking financial support. Of course the American Medical Association is the *bête noir* the "league" seeks to kill; it is the "medical trust" referred to. Members of the Association will be surprised to learn that if a national department of health is created it will result in "denying to the people the right to determine for themselves the kind of medical treatment they shall employ." For this reason, and so far as the advertisements state, for this reason only, the National League for Medical Freedom has been brought into being. As a slogan under which the real reasons for organizing may be carefully concealed, it may serve its purpose. Most people prefer to have their thinking done for them and this alone will prevent the absurdity of such a proposition, as that on which the "league" is ostensibly founded, becoming apparent. Yet every person with the most elemental knowledge of our government knows that the regulation of the practice of medicine and the licensing of physicians is a function of the state and that any law attempting to confer such power on a department of the federal government would be unconstitutional. The proposed department of health would have just as much authority to determine what "kind of medical treatment" the people should employ as the Department of Agriculture has to dictate to the farmer regarding the implement company he shall buy his plows of. * * *
>
> To disclose the source of this opposition it is only necessary to call attention to some of the members of the "advissory board"—high-sounding title—as reported in the newspapers, to make reasonably clear to the members

of the American Medical Association the "power behind" the "league." The publisher of the *Medical Standard* and *Western Druggist*, for instance, has long been known as a defender of, and mouthpiece for the "patent medicine" and proprietary interests. His presence on the "advisory board" is fitting, and the only surprising thing about it is that he should have been guilty of such a tactical blunder as getting into the fierce light of publicity.

That the president of the A. D. S. should be on the "board" was to be looked for, and being looked for, is found. And there are others! Among the lesser satellites in this distinguished galaxy are those who very naturally might be expected to enter enthusiastically into such a campaign—the president of an antivivisection society, some "mental healers" and one or two journalists of varying degrees of obscurity. Of the latter, one has for years been strongly opposed to medical organization and more recently has taken up that mental vagary known as "new thought." Taking into consideration both the objects of the "league" and the personnel of its "board" one feels that the New York *Journal* expressed only a half-truth when it said:

"The druggists and the proprietary medicine interests throughout the country are said to be chiefly concerned in defeating the Owen bill."

It would have been nearer the facts if for "defeating the Owen bill" were substituted the clause "attempting to disrupt the American Medical Association." A dozen years ago the public might not have been able to see the animus prompting this attack—to-day it is wiser.

As to the publicity which this sensational and costly campaign will give to the American Medical Association the medical profession may welcome it. One thing that has long been needed is that of directing the attention of the laity to the aims and accomplishments of the American Medical Association. It welcomes investigation—the more the public learns about the work the Association is doing the better for the Association. It has nothing to be ashamed of, but it has a great deal to be proud of; its work in the interests of both public welfare and scientific medicine is and always has been open and above board. The Association needs no defense; it is not only well able to stand on its record, but is proud of that record.

NEW SYSTEM OF HOSPITAL CONTROL IN ST. LOUIS.

The new ordinance governing the control of the hospitals in St. Louis went into effect early in May and the Mayor has appointed the following members of the Hospital Board: Dr. R. L. Thompson, Dr. John B. Shapleigh, Dr. W. John Harris, C. L. Swarts, E. N. Tolcaz and B. F. Gray, Jr.

This board has appointed Dr. John C. Morfit as Hospital Commissioner, who will supervise the conduct of the institutions. A visiting staff of physicians for each hospital will be created later, although the following physicians have already been appointed: Drs. H. G. Mudd, Willis Young, M. G. Seelig, Elsworth Smith, G. C. Crandall and C. J. Luyties. To this list a large number of other physicians will be added from time to time until the staff for each hospital has been completed. Resident physicians and assistant resident physicians have been appointed as follows: City Hospital, resident physician, Dr. W. R. Hewitt; assistants,

Drs. G. L. Quails, C. S. McGinnis, A. Sewing, K. McAlpine, R. W. Chamberlain and E. W. Wippe.

Female Hospital: Resident physician, Dr. J. Rotter; assistants, Drs. T. P. Brooks, W. D. Davis, R. E. Hogan.

Sanitarium: Resident physician, Dr. H. R. Hill; assistants, Drs. D. R. Fish, G. A. Johns and R. F. Belair.

The importance of this departure in the management of the eleemosynary institutions of St. Louis cannot be overestimated. It means far more than a mere change in the method of handling the affairs of the charitable institutions of the city for, if the new system is judicially administered, the business department of the hospitals will be conducted with much greater care and accuracy than was possible under the old system, and patients will receive the most efficient care and treatment that the medical profession of the city can administer. Economically and sociologically, the city and the State will be the gainers and the medical profession will profit through the experience gained in caring for the large number of persons annually treated in these institutions.

THE CONFERENCE OF CHARITIES AND CORRECTIONS.

The thirty-seventh annual session of the Conference on Charities and Corrections was held in St. Louis during the week May 19th to 26th. The keynote of the discussion showed an evidence of a healthy unrest prompted by a sincere spirit of inquiry for truth and facts concerning economic and sociologic conditions. The organization is imbued with a strong impulse to be up and doing, to investigate and learn the causes that lead to human depression and depravity, and to apply practical remedies.

The scope of the work is far-reaching; it embraces the defective and degenerate, of which we have the criminal, the insane and the prostitute; the dependent and delinquent, both child and adult; and those of low moral, social and physical standards.

The search for truth in these matters is destructive to those time-honored methods which have served their usefulness but must now give place to newer ways of dealing with our altered social conditions. It is a reformation but along eminently practical lines. The three points of attack by the Conference are, first, prevention; second, improvement and cure; third, after care. Here are fields of labor for the correction of physical, social, political and moral abnormalities. That the work has been of slow and gradual growth is a proof of its strength; and that the roll of membership is rapidly increasing points unerringly, to its effectiveness for good.

COUNTY SOCIETY NOTES

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY.

Cape Girardeau County Medical Society held a special meeting, open to the public, on Monday evening, March 7th, in the banquet hall of the St. Charles Hotel to listen to an address by our honored guest, Dr. W. G. Moore, of St. Louis.

The following members were present: Doctors Cunningham, Hays, Henderson, Hope, Howard, Edward Moore, Nettles, Porterfield, Jr., Schulz, Statler, Wichterich, Wilson and Yount.

A banquet was served, after which Dr. W. G. Moore gave an interesting talk showing what had been accomplished through organization and the benefits to be derived through coöperation by the press toward educating the people in proper hygiene. He also spoke of the valuable aid that could be rendered by the clergy.

MEETING OF MARCH 14TH.

The regular meeting was held March 14th at Cape Girardeau with eight members present.

Dr. Cunningham read a paper on "Neurasthenia" and emphasized the importance of treating most cases without drugs. Suggestive methods besides hygienic measures, he thought, would prove more effective.—E. H. G. WILSON, M. D., Secretary.

MEETING OF MAY 5TH.

The regular monthly meeting was held at Jackson, May 5th, with the following members present: Doctors Cunningham, Dalton, Hays, Henderson, Higdon, Hope, Moore, Statler, Vinyard and Wilson.

Program: Cystitis, by Dr. Hays. Mitral Regurgitation, by Dr. Statler. "Infantile Convulsions," by Dr. Higdon.

All papers were well prepared and practical lessons drawn by reports of cases from practice. This was one of the best meetings our society has had for some time.

Dr. Wm. Kiehne, a retired practitioner, died May 5th, and a committee was appointed to present suitable resolutions of condolence at our next meeting. The committee: Doctors Hays, Henderson and Vinyard.

On motion the Society adjourned to meet in Cape Girardeau June 13th.—E. H. G. WILSON, M. D., Secretary.

CARTER-SHANNON COUNTY MEDICAL SOCIETY.

The Carter-Shannon County Medical Society convened at Winona on April 19th, in regular session, at 7:30 p. m., with President Dr. Wm. Fulton in the chair, and the following members present: Drs. Frank Hyde, P. D. Gum, T. W. Cotton, Edward Henschel, and J. A. Chilton.

The routine work, part of which consisted in electing one new member to the Society, and a delegate—Dr. Edward Henschel, with Dr. Frank Hyde as alternate—to the meeting of the State Society to be held at Hannibal, being over, the doors were thrown open to the public, and with an audience of some 300 people, the following program was rendered:

"Hygiene of the School Room," by Prof. Pummill, principal of the Winona public schools. "The House Fly," Dr. Wm. I. Fulton. "Typhoid Fever," Dr. Frank Hyde. "Smallpox," Dr. T. W. Cotton. "Scarlet Fever," Dr. P. D. Gum. "Self Medication," Druggist J. T. Loyd. "Tuberculosis," Dr. J. A. Chilton.

These papers were read and discussed, not only by the doctors, but by many of the citizens, the latter of whom expressed themselves well pleased and highly benefited by the knowledge of the infectious diseases, and how to manage them, that they had gained, and a rising vote of thanks was tendered the members of the Society for its efforts in behalf of public health and sanitation which it was making.

The nature of the papers read by the doctors was educational, and gave to the hearers such knowledge as is most beneficial to the laity for their welfare regarding their coöperation with the profession in securing better means of sanitation, and the control and management of the infectious diseases.

The meeting was an entire success, and highly enjoyed by all present.—J. A. Chilton, M. D., Secretary.

CLINTON COUNTY MEDICAL SOCIETY.

The Clinton County Medical Society held its regular quarterly meeting in Lathrop; the following physicians being in attendance: Dr. John Sturgis, of Perrin; Drs. McDonald, Peters, Gilliland, Jones and Risley, of Cameron; Drs. Steckman and Fulton, of Plattsburg; Drs. Lyle and Frankenburger, of Kansas City, and Drs. Kimsey, Robertson, Longfield and McConkey, of Lathrop.

Following is the program: "Interstitial Keratitis," Dr. C. H. Risley. "The New Statistic Law," Dr. F. H. Fulton. "The Old-Fashioned Girl as Compared to Our Modern Society Belle," Dr. A. W. Robertson. "Rectal Diseases," Dr. J. M. Frankenburger. "Acute Fermental Diarrhœa," Dr. A. D. Gilliland. "Venereal Diseases in the Innocent," Dr. H. M. Lyle. "Care of Contused Wounds," Dr. E. S. McDonald.

All papers were discussed with force and vim, and an excellent meeting resulted.

The following resolutions were adopted:

Whereas, on March 7, 1910, the Great Physician, in his infinite wisdom, called our honored member, Dr. J. O. K. Gant to other fields of labors; therefore, be it

Resolved, That in his death his family has lost a true and devoted husband and father, this Society a worthy, faithful and strictly ethical member, and the State an upright and honored citizen.

Resolved, That we cherish in grateful memory his great work for the profession and his unselfish devotion to this Society.

Resolved, That we bear to his family our sympathy in their great loss. That a copy of these resolutions be sent to the family, a copy be placed upon the minutes of this Society, and a copy be sent the State Journal for publication.

Done by the Clinton County Medical Society, in session in Lathrop on April 12, 1910.

Jno. Sturgis,
F. H. Fulton,
C. M. McConkey,
Committee.

The next meeting will be in open assembly in Plattsburg in July, to which the public will be invited.

COLE COUNTY MEDICAL SOCIETY.

At the meeting of the Cole County Medical Society the following resolutions were adopted in memorial of Dr. J. L. Thorpe:

Dr. Jefferson L. Thorpe, one of the leading physicians of this state who practiced his profession in this city for more than twenty years, died on the 22nd day of March, 1910, after a brief illness at the age of forty-eight years. His was a most useful and honorable life. He was a man of most genial disposition and charitable impulse. He will be most kindly remembered by citizens of every class and most sincerely missed by a host of friends.

Dr. Thorpe was devoted to his profession and fully deserved the high respect accorded to him by this community and the great confidence reposed in him.

Gentle in manner, firm in conviction, a faithful friend, kind and affectionate husband and father, and a worthy member of this association, it is with deep regret we record his death.

We tender our sincere condolance to his family.

Resolved, That a copy of this memorial be sent to his family as a testimonial of our esteem for our departed friend, and that a copy be spread upon the minutes of the association.

Chas. P. Hough,
Wm. A. Clark,
Cortez Enloe,
Committee.

DAVIESS COUNTY MEDICAL SOCIETY.

The Daviess County Medical Society held its regular meeting April 12th, at Gallatin, the following members being present: Drs. Wetzel, Smith, Clagett, Dunham, Hanna, Doolin and Songer.

Dr. A. M. McClung, of Pattonsburg, was elected to membership.

District Counselor Dr. Miller, of Liberty, was with us and gave a very interesting talk on organization.

The next meeting will be held at Pattonsburg, July 12th, at which time all the physicians in the county are urged to be present.—H. E. Songer, M. D., Reporter.

GREENE COUNTY MEDICAL SOCIETY.

The Greene County Medical Society, at the regular meeting April 22nd, adopted the following resolutions, and the Society voted that they be published in the State Journal:

Dr. Jonathan Edwards Tefft was born in Exeter, R. I., on June 22nd, 1836, and died in Springfield on March 25th, 1910. He practiced medicine in Springfield for forty-five (45) years. After attending the Pierce Academy of Middleboro, Mass., he entered the Providence Conference Seminary of East Greenwich, Rhode Island, and later graduated from the Brown University of Providence, R. I. His medical education was obtained in the Medical College of Ohio, Cincinnati, from which institution he was graduated in 1865. In the same year he came to Missouri and took up his residence in Springfield. Drury College conferred upon him the degree of Doctor of Laws. In 1890 he went to London and pursued special studies in Guy's Hospital. Dr. Tefft was Lecturer on Genito-Urinary Surgery in the Medical Department of the University of Missouri, was Senior Surgeon of St. John's Hospital, and consulting surgeon to the Employes' Hospital of the Frisco Railway System. He was president of the Missouri State Medical Association in 1871, was ex-president of the Springfield Medical Society and ex-president of the Southwest Missouri Medical Society. He was a member of the Mississippi Valley Medical Association, the American Medical Association and corresponding member of the St. Louis Medical Society and of the St. Louis Academy of Sciences. Dr. Tefft's first enlistment in the army was in Company "A" of Fremont's Body Guard. This was in the spring of 1862. On the first day of March, 1863, he was mustered in as assistant surgeon of the First Regiment of Arkansas Cavalry, and he was discharged from this last service on the 11th day of January, 1865. He was receiving a pension at the time of his death, based on this last service.

Resolved, That the Greene County Medical Society has lost in the death of Dr. Tefft one of its strongest supports in the advocacy of greater medical achievements and moral rectitude. His aim was ever higher, his advice always encouraging to the younger members to gain the greatest honors attainable in the profession.

Resolved, That while we yield with submission to the will of an inscrutable and allwise Providence that has seen fit to take one of our esteemed members from us, yet we feel that humanity has lost in him an able adviser, and the cause of medicine, his cherished and loved profession, would have been strengthened and benefited by his longer stay among us.

Resolved, That we extend to his family our deepest sympathy in the loss of a loving husband and devoted father.

Resolved, That a copy of these resolutions be spread upon the minutes of the Association, and one also be sent to his family.

W. A. Camp,
J. R. Bartlett,
J. P. Ralston,
W. P. Patterson,
Wm. M. Smith,
Committee.

MEETING OF MAY 13TH.

The Greene County Medical Society met at the Public Library Friday, May 13th, at which time the magnificent library of the late Dr. J. E. Tefft was donated to the Society by the family of the deceased. In the absence of the president, Dr. T. Doolin, Dr. W. A. Camp presided. Captain George M. Jones, in a short but very appropriate address donated the library to the Society, and Dr. W. M. Smith, in response and on behalf of the Society, accepted the gift.

Mrs. W. A. Camp read an original poem on the life of Dr. Tefft. Rev.

Henry Little, a personal friend of the doctor and family, spoke of his life as a student, citizen and surgeon.

Dr. Halley, of Kansas City, in his address, referred to the Doctor as a medical instructor, paying special attention to the active part taken at medical associations.

In the death of Dr. Tefft the Greene County Medical Society has lost one of its most worthy members, and Greene County and Southwest Missouri one of its most honored and influential citizens.—THOS. O. KLINGNER, M. D., Secretary.

LAFAYETTE COUNTY MEDICAL SOCIETY.

Lafayette County Medical Society met at Lexington April 12th, the following members being present: Drs. Clayton and Barclay, of Odessa; Dr. Harwood, of Dover; Drs. J. A. and F. W. Mann, of Wellington; Watts, Napoleon, Schneider, Concordia, Braecklein, Porter and Ott, of Higginsville; Roberts, Chalkley, Cope, Fredendall, Tucker, Fulkerson, Payne and Ryland, of Lexington. Visitors, Dr. T. F. Lockwood, of Butler, and Dr. Wm. J. Frick, of Kansas City. The application of Dr. J. F. Mackey, of Odessa, was received and referred to committee.

Dr. Lockwood read a paper on "A Plea in Behalf of the Unborn." The doctor's paper showed a very careful and thorough study of his subject and was highly entertaining and instructive to all who had the pleasure of hearing it. Discussions by all present followed.

Dr. Frick's paper on "Intussusception" was read in a clear, concise manner and showed a practical scientific knowledge of the subject and was, therefore, very instructive to all the doctors present. This paper was also followed by free discussion from all. To these gentlemen we extend our appreciative thanks.

The regular meeting of the Society was followed by a moving picture demonstration of the fly pest to which the public had been invited. The house was so crowded that a second show was given. These pictures were of more benefit to the audience than a dozen lectures on this subject would have been. The pictures showed the flies laying eggs in putrid meat; the eggs in white masses; the maggots in heaps as they emerge from the eggs; how the maggots burrow in the dirt to enter the pupa state; the pupæ themselves one day later; the fly emerging from the filth, at first wingless, then the perfect adult fly.

A second series of pictures showed "How Flies Carry Contagion." Flies swarming on putrid fish; crawling over lumps of sugar; in a cuspidor; on the nipple of a baby's feeding bottle; and, last of all, a pretty baby sucking the mouth-piece from which the flies have just departed. These pictures should be exhibited all over the state before the public, as well as before schools and scientific bodies in a campaign against the fly.

The next meeting of the Society will be held at Lexington in May.—C. T. RYLAND, M. D., Acting Reporter.

NEWTON COUNTY MEDICAL SOCIETY.

Newton County Medical Society met in regular session on Tuesday, May 10th, with about one-half of the members present. We had a

very good meeting and elected the following officers for the ensuing year: President, Dr. H. L. Porter, Seneca; vice-president, Dr. R. C. Lamson, Neosho; secretary, Dr. O. J. Sloan, Neosho.

Dr. Sloan is a very wide awake young man and will certainly add to the strength and usefulness of our Society. It was decided that we would make a very careful canvass of the county and endeavor to bring every ethical physician in the county under the influence of the County Society. We canvassed the territory during the meeting and found that there are about fifteen physicians eligible for membership who have not joined; there are also several of the old members who have not paid their dues for the current year, but we will keep after them until they are reinstated.

In July the Society will have a banquet after its regular session and every member is urged to come and join in keeping up the spirit of good fellowship and society interest.—Horace Bowers, M. D., Secretary.

PIKE COUNTY MEDICAL SOCIETY.

The Pike County Medical Society met at Clarksville on March 27th. Present: Drs. J. L. Davis, T. G. Hetherlin, J. E. Bankhead, E. M. Barlett, Storey, O. K. Edgell and J. W. Dreyfus.

While the meeting was not a large one it proved to be a very profitable and interesting one. Dr. Storey read a most excellent paper upon the subject of "Heredity," which was freely discussed. There were other papers due but in the absence of the essayists the time was used in discussing many other subjects and phases of medicine.—J. W. Dreyfus, M. D., Assistant Secretary.

PLATTE COUNTY MEDICAL SOCIETY.

Platte County Medical Society convened April 6th, at Platte City. Members present: Drs. Yokum, Clark, Redman, Coffey, Herndon, Carter, Hull. Visitor, Dr. Harrel, of Kentucky. After the regular order of business papers were read as follows:

Lacerations of the Perineum, by Dr. Carter. Discussion opened by Dr. Yokum. This was a very able paper and received much comment by those present.

The Physiology of the Female Generative Organs, by Dr. Yokum. This subject was presented with much preparation and was very ably discussed by those present.

The Society tendered a vote of thanks to Dr. Harrel, of Kentucky, in appreciation of his very able toast which closed the scene.

Sufferings of Womankind Through False Modesty—a Remedy, was very ably presented by President Dr. G. C. Coffey, and was received with much interest and extensive debate.

There being no further business the Society adjourned until the next regular meeting, May 11th, at Platte City. This will be a public meeting held at the court house. The program follows:

10:30 A. M.

School Hygiene.....Dr. J. M. Hale, Dearborn

Discussion opened by Prof. J. F. Sexton, County Superintendent Public Schools, Platte City.

1:30 P. M.

What the Medical Profession is Doing to Prevent Disease and Some Ways in Which the Public Can Assist.....
.....Dr. Spence Redman, Platte City
Discussion opened by Senator N. B. Anderson, Platte City.
The Public Health Problem, Both National and State.....

Dr. Tinsley Brown, President Missouri State Medical Assn., Hamilton
Organization of County Anti-Tuberculosis Society.

MEETING OF MAY 11TH.

Platte County Medical Society held its regular meeting at Platte City on May 11th. This being an open meeting the public was invited to attend and a large audience was present. The program consisted of papers that were calculated to instruct the people in the methods of preventing disease and promoting good hygienic conditions in private and public life. The following papers were read:

"What the Medical Profession is Doing to Prevent Disease and Some Ways in Which the Public Can Assist," by Dr. Spence Redman, of Platte City. The discussion on this paper was opened by Senator N. B. Anderson. "The Public Health Problem, Both National and State," by Dr. Tinsley Brown, President Missouri State Medical Association. The organization of a county anti-tuberculosis society was inagurated and Senator Anderson was chosen chairman, and E. R. Hull, M. D., secretary, *pro tem.*

These papers were well received and aroused a good deal of favorable comment as well as causing the people to have a better understanding of the real objects of the organized profession in its effort to protect the public against disease.

Dr. George R. Dagg, of Barry, was received as a member by election and Dr. A. R. Mitchell, of Edgerton, received by transfer from Clinton County. We are glad to have these gentlemen with us. Every ethical practicing physician in Platte County can and should become a member of the county society.

Members present: Drs. A. H. Moore, H. M. Clark, F. M. Shafer, Spence Redman, L. A. Shafer, E. R. Hull. Visitors: Drs. Tinsley Brown, of Hamilton, ex-President of the State Association, and Dr. Harrel, of Kentucky.—E. R. HULL, M. D., Secretary.

PULASKI COUNTY MEDICAL SOCIETY.

The Pulaski County Medical Society met April 28th, 1910, in the office of Dr. Von Gremp at Dixon. Dr. McCulley in a very interesting manner encouraged the idea of having joint meetings between Camden, Laclede and Pulaski counties.

Dr. Rolens addressed the Society on the advantages to each physician and the local registrar in vital statistics reports being sent in promptly. Dr. Von Gremp gave a very interesting talk on the advantages to be gained by every physician in the county being a member of the County and State Societies.—EVERTT A. OLIVER, M. D., Secretary.

RALLS COUNTY MEDICAL SOCIETY.

The Ralls County Medical Society held regular meeting at New London on April 14th, morning and evening sessions. Present: Dr. W. S. Harwood, of Rensselaer; Dr. W. L. Birney, of Oak Wood; Drs. C. H. Graves and Wm. Birney, of Center; Drs. W. G. Hendrix, W. T. Waters, and T. J. Downing, of New London. Visitors: Drs. R. H. Goodier, J. E. Hill, E. H. Bounds, and R. M. Winn, of Hannibal; Drs. J. J. Kennedy and R. W. Burns, of Frankford; Dr. F. E. Walters, of Bowling Green, and Drs. J. A. and T. H. Welsch, of Center.

The program. Paper, "Vital Statistics and the Local Registrar," by Dr. W. L. Birney. Deferred to next meeting.

Paper: Dr. W. T. Waters read in happy vein a very entertaining and instructive paper, the subject of which was "Yarbs." In the discussion following the "lay-brother" did *not* have his "inning."

The Nestor of the Ralls County Society, and the oldest, save one, of the doctors of the county, Dr. W. G. Hendrix, sitting, read by request a paper, "In Support of the Code." Much interest was manifested, and a lively discussion followed the reading of this paper. The code is old, but then the doctor is too.

Question: How long should quarantine run after an attack of diphtheria? In answer to this question, the opinions varied from one week to three weeks. It was brought out that children having light and unsuspected attacks of diphtheria, not sick enough to call the doctor, are a greater factor in scattering diphtheria, than even the convalescent, especially when the latter has been treated properly, that is, with the earliest possible administration of sufficient antitoxin.

It is possible that this was the most *lively* and *exciting,* if not the best, meeting in the history of the Ralls County Medical Society.—T. J. Downing, M. D., Secretary.

STODDARD COUNTY MEDICAL SOCIETY.

The Stoddard County Medical Society met in quarterly session at Bloomfield, Wednesday, April 6th, with President G. W. Vernon and nine other members present.

Dr. Vernon read a very able and exhaustive paper on "Medical Treatment of the Insane," which called forth a general discussion.

The next meeting, at Bernie, will be held the 20th day of July and will be devoted to surgical subjects.

Dr. Charles Moore, of Advance, was elected to membership.—T. C. Allen, M. D., Reporter.

ST. LOUIS COUNTY MEDICAL SOCIETY.

The St. Louis County Medical Society met in the Empire Building Webster Groves, on Wednesday, May 11th.

Dr. R. D. Moore of Central, delegate to the State Association, gave an interesting and complete report of the meeting held in Hannibal. In closing he made a plea for a better attendance on the part of our Society at the State meetings.

Dr. Grindon, of St. Louis, visited us and gave a brief history of the Missouri State Medical Association. He urged each member to try to be present next year.

The program: Diagnostic Therapeutic Importance of Attention to the Scalp, by Dr. Joseph Grindon of St. Louis. Dr. Grindon's humorous but scientific paper produced many ripples of mirth as well as thought, and brought out a volley of questions, especially from those whose heads are fast assuming the topographical aspect of the billard ball. The Society extended a vote of thanks the Dr. Grindon for his kindness in giving us so instructive a paper.

Dr. W. E. Metcalf of Maplewood, read a paper on Asthma. Owing to the lateness of the hour discussion was deferred until the next meeting.

Members present: Doctors Cape, Jensen, Moore, Miles, Reynolds, Carter, Guibor, Maisch, Mills, Townsend, J. Armstrong, Baker, Koch, Pitman, C. Armstrong, Metcalf, and Prossard. Visitors: Dr. Joseph Grindon of St. Louis.

The Society adjourned to meet in Webster Groves on Wednesday, June 8th. 1910, at 2:30 p. m.—P. M. Brossard, M. D., Secretary.

SCHUYLER COUNTY MEDICAL SOCIETY.

Schuyler County Medical Society held its regular meeting in Glenwood.

Members present: Doctors T. B. Farrington, W. H. Zeber, W. B. Hight, W. F. Justise, B. B. Potter, E. L. Mitchell, A. J. Drake, J. B. Bridges, J. H. Keller and H. E. Gerwig.

Application for membership: Dr. W. F. Justise.

Dr. J. H. Rambo read a paper on Puerperal Eclampsia which was discussed by all members present.

Dr. Hight presented a very able paper on Appendicits which was thoroughly discussed. Quite a number of interesting cases were reported.

There being no further business we adjourned to meet in Queen City, June 1st, 1910.—H. E. Gerwig, M. D., Secretary.

SHELBY COUNTY MEDICAL SOCIETY.

The Shelby County Medical Society met in Dr. Vaughn's office at Shelbina, April 1st. Clinical cases were reported by Drs. Owen and Pollard and were well discussed.

The Vital Statistics Law was the main topic for discussion. While the principles of the law were advocated by all, the working of such law did not meet the approval of the Society, because of its complexity and especially the trouble of those doctors who are so located that their work is in two or even three counties.

A committee was appointed to draft resolutions on the death of Dr. H. T. Willis.

Drs. Hanger and Musgrave, of Clarence, were elected as members.

The membership is now larger than ever before; only four doctors in the county are not enrolled.

President Owen appealed to all who could do so to attend the State meeting.

Members present: Drs. Owen, Pollard, Vaughn, Smith, Pollard, Ferguson, Daniel, Hanger, Musgrave, Carson, Wood.—A. M. Wood, M. D., Reporter.

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